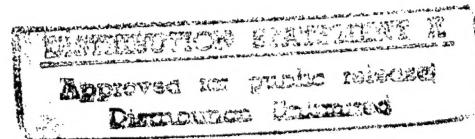


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25 JANUARY 1989



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Soviet Union

USA: ECONOMICS, POLITICS, IDEOLOGY
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No 7, July 1988

Editor Reviews Summit, Aftermath

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[Editorial by Valentin Mikhaylovich Berezhkov, doctor of historical sciences: "After the Moscow Summit"]
[Text] As the exciting days of the Moscow summit meeting recede into the past, we can see the full significance of this major event, which corroborated the accuracy of the choice made in Geneva less than 3 years ago. At that time the chief executives of the USSR and the United States displayed their determination to replace the confrontation between today's greatest powers with a search for spheres of cooperation and the development of political dialogue. Without this, conflicts could have the gravest consequences. Constructive efforts on both sides produced an extremely meaningful result: The fourth summit meeting put relations between Moscow and Washington on a new and higher level.

A statement made at the 6 June meeting of the CPSU Central Committee Politburo said: "The Moscow summit meeting was a great event in international affairs. Its main result was the intensification of political dialogue between the Soviet Union and the United States, a dialogue which now covers all of the cardinal issues in bilateral relations and world politics. By laying a constructive basis for the long-term development of relations between the two countries, the Soviet-American dialogue is directing them into normal and healthy channels and heightening their stability and predictability."¹

The Moscow meeting made the completion of the INF Treaty enactment procedure a political landmark. The exchange of ratification documents and the signing of the appropriate protocol constituted a major historical milestone separating the era of the buildup of nuclear arms from the coming era of the reduction and eventual complete elimination of weapons of mass destruction. As the INF Treaty is implemented, people will fully appreciate the tremendous significance of this unprecedented qualitative change in the life of humanity. What seemed unthinkable just a short time ago has become possible. New types of weapons have been developed throughout history. New models have replaced outdated ones, and increasingly destructive weapons have been invented. Now the entire world will witness the destruction of systems which are not obsolete yet—the terrible intermediate- and shorter-range missiles representing the latest developments in science and technology.

The verification measures stipulated in the treaty are equally impressive. The scales and depth of mutual verification are truly unprecedented. Experts from the other nation will inspect military installations previously

classified as top secret. In this way the INF Treaty will endow the very concept of security with absolutely new and unprecedented elements.

The work of Soviet and American inspectors in the United States and the USSR respectively can only be successful in an atmosphere of mutual trust, openness, and glasnost. Some people in the United States, however, are already horrified by the prospect of Soviet inspectors being allowed to enter enterprises where they might learn "industrial secrets." But after all, the Soviet managers of enterprises subject to inspection might have the same apprehensions. Nevertheless, both sides will have to abide by the terms of the INF Treaty, which has been ratified by legislative bodies in the USSR and the United States and has become law. This will be a good "dress rehearsal" for the perfection of the mechanism which will operate in even more complex forms in a treaty on strategic offensive arms.

Important documents which will expand the sphere of bilateral USSR-U.S. cooperation considerably were signed at the fourth summit meeting. They envisage the further expansion of contacts and exchanges to promote mutual understanding and secure the stability of Soviet-American relations. In all, 47 bilateral agreements are now in force—covering a variety of fields, from the study of the Arctic and Antarctic zones to cooperation in space.

In contrast to the early 1970's, the last few years in the development of Soviet-American relations have not been a time of unjustified euphoria. Experience has proved that negotiations between our countries are always complicated. Cooperation is accompanied by occasional disagreements and regression. Contradictory American views are encountered frequently. The reduction and elimination of nuclear weapons are being negotiated, but the American side is still speaking of reliance on strength. In spite of its declared commitment to liberty, the United States refused to accept the Soviet proposal that the joint statement issued at the Moscow summit meeting include a pledge to solve problems by political means, to not interfere in the internal affairs of other nations, and to respect their social choices. None of this, however, could detract from the significance of the intensive dialogue at the Moscow meeting. The road to the meeting was long and hard. It led through Geneva, Reykjavik, and Washington. In spite of all their disagreements and the differences in their ideology, traditions, historical experience, and social systems, the two countries agreed in Geneva that there can be no winner in a nuclear war and that this kind of war must never be started. Now that the USSR and the United States are beginning to eliminate two classes of lethal weapons, this statement sounds particularly meaningful.

Grand policies call for a grand idea. This is the idea of a nuclear-free and non-aggressive world. The conclusion of a treaty on the reduction of strategic offensive weapons by 50 percent will be the next step in the implementation of this idea. The Soviet side has pledged to do

everything within its power to attain this goal. The President of the United States also expressed the hope that the treaty could be signed before the end of his term in office. "And if we should succeed in doing this," Reagan said, "I hope my successor will continue this work."²

It is impossible, however, to ignore the presence of influential elements in the U.S. ruling elite with an openly hostile attitude toward the progress in the sphere of disarmament. This is the political movement which calls itself "neoconservative." As CHRISTIAN SCIENCE MONITOR correspondent J. Harsch remarked, these elements have made a tremendous effort in the last 8 years "to keep this from happening.... From the very beginning the neoconservatives have taken every opportunity to prevent agreements with the Soviets. The purpose of their first major campaign was the economic blockade of the USSR. They urged the vigorous 'containment' of Soviet influence. They preached the possibility of winning a nuclear war. Above all, they did not want anything like arms control agreements or summit meetings." Harsch went on to say that the ratification of the INF Treaty in the Senate by a vote of 93 to 5 was a "cruel blow" to the neoconservatives. They were even more shocked by their hero's "friendly treatment" of the leader of the Communist Party of the Soviet Union. All of this, the correspondent concluded, "goes against the fundamental beliefs of the neoconservative movement."³

President Reagan must have seen how baffled his supporters on the extreme right were by all of this. During a stopover in London on the way home, he said: "To those of us who remember the postwar era, all of this is cause for amazement. Just imagine, the President of the United States and the General Secretary of the Soviet Union walking together in Red Square, talking about a growing personal friendship, and greeting the common people in the realization of how much our people have in common."

The picture is truly impressive, but Reagan did not miss an opportunity to cloud the picture slightly in London with some comments about the "protection of human rights" and the reaffirmation of the West's fidelity to power politics.

But a few days earlier, after the walk through Red Square, near Tsar Cannon inside the Kremlin, Reagan loudly declared that he no longer regards the Soviet Union as the "evil empire" and added: "I was speaking of a different time, a different era."

Of course, this came as a complete surprise to the neoconservatives. And it is not surprising that there are already signs of the consolidation of all rightwing extremists in the United States with the aim of opposing future moves in the sphere of arms reduction. They believe that the development of relations between the USSR and the United States is progressing too quickly.

Because they were unable to sabotage the ratification of the INF Treaty, they are now hungry for revenge and are certain to take new steps to reverse or at least stop this consistent advancement.

President Reagan has some advice for his successors: "We must never again allow silence to prevail in our relations (U.S.-USSR relations—V.B.)." He supports further advancement toward realism. The current administration, however, has less than half a year left to take practical steps and conclude agreements. By November there will effectively be a new president, and he will start putting the next administration together.

The two main contenders for the presidency, G. Bush and M. Dukakis, applaud the results of the Moscow summit and declare their commitment to the disarmament process. Experience has shown, however, that former candidates often change their minds after they enter the White House. Furthermore, either one will bring new people into the administration. The process of the transfer of authority, the period of familiarization with the job, and the reassessment of foreign and domestic policies will all take time.

But after all, the opponents of disarmament and continued Soviet-American dialogue are not napping. They will try to use any excuse, any exacerbation of regional conflicts, to resume the escalation of tension and revive and intensify the confrontation. Some of them are already trying to exert pressure on Vice-President G. Bush. For example, Republican Party political consultant Eddie Mahey has advised him to "dissociate himself from President Ronald Reagan and calm the conservatives in his own party." And when U.S. Secretary of Defense F. Carlucci made a speech in Tokyo recently, he felt the need to focus attention on the "Soviet threat" and the "offensive doctrine" of the Soviet Armed Forces, although when he was in Moscow with President Reagan and met Soviet Defense Minister D.T. Yazov he must have heard about the defensive sufficiency and non-offensive doctrine of the Soviet Army and all Warsaw Pact forces.

A great deal will also depend on the political situation within the United States, on possible economic upheavals, on the pressure exerted by the military-industrial complex, on the degree of consolidation and strength of "neoconservatives," and, of course, on the activities of forces advocating realism in politics.

A book by young English historian Paul Kennedy, "The Rise and Fall of the Great Powers," was recently published in the United States and immediately became a best seller. The author traces the history of the great powers back to the 16th century and predicts their future development. He concludes that America will be unable to keep its status unless it revises its old ideas radically. "As for the international military obligations the United States has taken on since 1945," Kennedy writes, "the United States is obviously much less able to bear this

burden today than it was a few decades ago, when its share of the world product was much larger, its agriculture was not in a state of crisis, its balance of payments was much higher, its federal budget was balanced, and it did not owe such huge amounts of money to the rest of the world. In this broad sense, we can see an analogy between the situation in the United States and the state of affairs preceding the decline of the hegemonic powers of the past."⁴

After noting the constant relative decline of the U.S. share of virtually all world economic indicators, the author continues: "The only answer to the increasing debates as to whether the United States will be able to retain its present position is that it will not, for the simple reason that no society can stay ahead of all others indefinitely."⁵

The English historian's conclusions might sound too categorical, but it is indicative that the book is still selling like hot cakes 3 months after its publication in the United States. The contents of the book apparently concur with the feelings and apprehensions of the American public, which is growing increasingly aware of the need for cardinal changes in domestic and foreign policy. It is not surprising that Americans representing the most diverse strata are beginning to say that the United States should respond to the new thinking and the perestroika in the Soviet Union with new thinking, perestroika, and glasnost of its own, tailored for American conditions. The entire world situation objectively demands new approaches and a new concept of common security.

Progress in world affairs, including the sphere of Soviet-American relations, is also connected largely with our internal affairs, especially perestroika. The success of our diplomacy and the acceptance of the new thinking and the peaceful Soviet initiatives by other countries, especially the United States, will depend to a considerable extent on the success of economic and social reforms in the USSR, on the continued renewal of life and the development of democracy, glasnost, and openness, on breakthroughs in technology and scientific progress, and on immediate efforts to surmount the delays in the satisfaction of the Soviet people's material needs.

At the time of the Moscow summit it was certainly no coincidence that the Soviet people paid the closest attention to the meeting and began discussing problems in perestroika with heightened interest in connection with the nomination of candidates for the 19th party conference. This underscored the connection between domestic and foreign policy issues. It became even more obvious that the advances in international affairs in recent years are directly related to the radical changes in the Soviet society.

It seems to me that today, especially after the Moscow summit meeting, representing an important milestone in Soviet-American dialogue and in all world politics, the

Soviet people are gaining a keen awareness of the crucial importance of the April (1985) plenum of our party's central committee. This is the reason for the many proposals regarding the procedure of electing the general secretary of the CPSU Central Committee, who is the chief executive of the country in our system. Many are troubled by the fact that he is elected by such a small group of people, while the decisions he and his closest colleagues make affect the lives of almost 300 million people.

People are inclined to quickly accept whatever happens around them. Glasnost, openness, and free discussion have all become a part of our life. But after all, the situation could be completely different. If a few people had expressed a contrary opinion in April 1985, our life would still be in the old pre-crisis rut. If someone other than M.S. Gorbachev, someone incapable of realizing the need for radical perestroika in our country, had been elected general secretary at that historical CPSU Central Committee plenum, what would have happened? There would be no glasnost, no new thinking, no bold peace initiatives, and no settlement in Afghanistan. There would have been no Geneva, no Reykjavik, no Washington, no Moscow, and no INF Treaty. We and the Americans would still be frozen in the ice of the "cold war." This would have encouraged the "war party" in the United States to build up strength, to perpetuate the "enemy image" of the USSR, and to preach the dangerous idea of the possibility of winning a nuclear war.

Luckily, none of this happened. Something else happened: Grand revolutionary reforms were instituted in the USSR. Now, after the 19th party conference, we are all awaiting the stepped-up development of our society. The decisions of the conference should make perestroika truly irreversible. This will also give Soviet foreign policy initiatives greater scope. The prerequisites for the development of Soviet-American dialogue will be reinforced, and the "cold war" will come to an end.

The Moscow summit meeting confirmed the beneficial effects of realistic and businesslike dialogue. Will this continue? Past experience tells us that U.S. policy is subject to unexpected reversals. Sometimes one step forward is followed by two steps back. This is what happened after almost every Soviet-American summit meeting in the 1950's, 1960's, and 1970's. Ever since the Geneva meeting, however, there has been consistent advancement, despite a few relapses into confrontation. There can be no doubt that this advancement was the result of a move toward realistic approaches in the USSR and in the United States.

Obviously, the support of positive processes by the public and by the European allies of both powers is also important.

It is indicative that President Reagan's popularity grew after his trip to Moscow. He has the support of the American public at large. According to polls conducted

by THE WASHINGTON POST and the ABC television company, 65 percent of the Americans feel that "Soviet-American relations have entered a new era."⁶ President Reagan himself stressed that he would advise his successor to continue the development of the Soviet-American dialogue.

We can only hope that the constructive dialogue between the USSR and the United States will continue under the new administration. This will create a real opportunity to save humanity from the nuclear menace and from the horrors of war and to establish a secure and lasting peace based on equitable cooperation by all peoples and states.

Footnotes

1. PRAVDA, 8 June 1988.
2. Ibid., 2 June 1988.
3. CHRISTIAN SCIENCE MONITOR, 1 June 1988.
4. P. Kennedy, "The Rise and Fall of the Great Powers," New York, 1988, p 529.
5. Ibid., p 533.
6. TIME, 6 June 1988, p 13.

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U.S., West Europe, and the INF Treaty
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[Article by Yuriy Pavlovich Davydov, doctor of historical sciences, professor, and sector head at the Institute of U.S. and Canadian Studies]

[Text] No event in postwar Soviet-American relations has evoked more acute and contradictory reactions in Western Europe than the signing of the INF Treaty by the two powers in Washington on 8 December 1987. It was officially supported by all NATO members (the March 1988 session of the bloc council at the level of heads of state noted that the deployment of American missiles was necessary for their withdrawal). The treaty was applauded by West European peace organizations. They stressed that it justified their anti-missile activities and confirmed that the deployment was an unnecessary and costly venture. It was approved by many political parties and officials (from "Greens" to conservatives), who saw it as a sign of a new thaw in East-West relations.

At the same time, the treaty and the processes it started aroused serious concern and some confusion in part of the West European establishment and in top NATO circles. In their opinion, the bases of all postwar trans-Atlantic relations are being eroded. They rested on two

seemingly strong pillars—a cultivated fear of the USSR and the belief that only an alliance with the United States could sustain Western Europe's earlier sociopolitical status. For 40 years its ruling circles relied on the United States, its military presence in the region, and its nuclear guarantees in matters of security. Now, however, both the "fear" and the "belief" are disappearing, and the treaty revealed this quite clearly. The West European elite turned out to be unprepared for the end of the postwar era of European development and the beginning of a new phase entailing the transformation of the European structure and, consequently, of trans-Atlantic relations.

Many Western politicians are afraid that the elimination of American missiles will weaken the strategic interrelations between the United States and Western Europe. "The connection between defense on both sides of the Atlantic will be broken,"¹ H. Kissinger asserted. For the West European allies, the American intermediate- and shorter-range missiles were tangible proof of Washington's willingness to use its own strategic weapons in the event of a military conflict in Europe. The argument cited in favor of their deployment was the need to strengthen the connection between the European theater of military operations and the U.S. strategic arsenal. This was discussed at length in NATO before the missiles were deployed, and today there is considerable disillusionment on this side of the Atlantic. There is much greater uncertainty in Western Europe about the efficacy and reliability of American commitments. West Germany's DER SPIEGEL declared that "the United States is constantly giving us reason to doubt its nuclear guarantees."² The report on "selective deterrence," prepared for R. Reagan in January 1988 by an independent bipartisan commission, seriously alarmed the allies. According to former FRG Defense Minister (now NATO Secretary-General) M. Woerner, the recommendations in the report are intended "to separate U.S. strategic potential from European defense."³

Throughout the postwar period Washington has been frightening its partners with the Soviet superiority in conventional forces on the continent. The results of this, however, are now starting to bother the United States. "The Europeans," Kissinger complained, "have never believed that conventional weapons alone could be a reliable deterrent."⁴ This is the reason for their reliance on American nuclear weapons and on the possibility of their first use, which was supposed to deter a potential adversary (as long as the adversary knew about this). Asserting that "nuclear deterrence" had guaranteed the continent 40 years of peace, some West European leaders are trying to prevent nuclear disarmament and the establishment of a nuclear-free Europe. For ruling circles in France and England, the possession of nuclear weapons gives them the status of world powers, national grandeur, claims to leadership in Western Europe, etc.

The combination, however, of the SDI (when Reagan was promoting it, he spoke of the immorality of "mutual assured destruction"), Reykjavik (where he was prepared

to eliminate all offensive nuclear weapons), and the Washington treaty (which marks the beginning of the elimination of nuclear weapons) convinced the West European allies that the American leadership is taking a fairly contradictory stance on the "nuclear deterrence" on which they have based their security.

The devaluation of American nuclear guarantees and "nuclear deterrence" is causing West European politicians to question the value of the bloc, of American leadership, and of the existing structure of trans-Atlantic relations.

Washington is worried about the "nuclear overload" in the American-West European alliance. The United States' "nuclear guarantees" to its allies, securing their attachment to their senior partner, were no great burden to Washington in the situation of strategic superiority, but they became increasingly dangerous under the conditions of USSR-U.S. nuclear parity and the tendency toward a lower "nuclear threshold" in Europe. American strategists apparently realized at some point that the deployment of intermediate-range missiles in Western Europe would prove to be a mistake over the long range: In the event of a military conflict in the region, they could lead automatically to an exchange of strategic strikes between the USSR and the United States. What West European allies saw as a cheap and reliable deterrent was seen by the American elite as an unacceptable risk. In recent years it has made several attempts to remove this "nuclear overload" from trans-Atlantic relations.

There were also economic reasons for the change in U.S. relations with Western Europe. For four decades Washington covered most of the cost of NATO. The American public and the Congress accepted this situation because they saw Western Europe as a weak partner growing weaker and the United States as a strong giant growing stronger. In the 1970's, however, the situation changed. Western Europe started to catch up with its senior partner in terms of economic parameters and had a GNP exceeding the senior partner's at the end of the decade. In the middle of the 1980's the U.S. share of total industrial production in the OECD countries was 35-36 percent, while Western Europe's share was 44.4 percent (the EEC's share was 36.1 percent), but the Americans were still paying 1.5 times as much as its allies for combined Western military preparations. Washington's expenditures on the "defense" of Western Europe were particularly high, reaching 50-55 percent of its military budget. Some experts have estimated that American forces intended for Europe will cost (with adjustments for inflation) around 2 trillion dollars in the next decade (almost three times as high as projected expenditures on the SDI). "Americans must have noticed that the West Europeans have made themselves comfortable behind the United States' nuclear shield,"⁵ said D. Calleo, a professor at Johns Hopkins University in Washington.

The U.S. national debt in 1987 was 2.8 billion dollars, and the payment of the interest on this debt alone takes 14 percent of the budget (twice as much as education), and this budget is also suffering from a huge deficit (147 billion dollars in 1987). The United States, which had been an international creditor, became a debtor by the middle of the 1980's, and its foreign debt totaled 260 billion dollars in 1986. Under these conditions, neither the American administration nor Congress is willing to pay more for the defense of Western Europe than it is paying itself. They are angry that during the 1979-1984 period (after the NATO decision to increase military budgets by 3 percent a year), the real military expenditures of the United States rose by 42 percent, while those of the European bloc members rose by only 10 percent. Patricia Schroeder, member of the House of Representatives from Colorado, had this to say about the situation: "Our trade deficit is now around 175 billion dollars. Our losses in the trade war are almost equal to our expenditures on the defense of our allies."⁶ In the opinion of several American experts, the U.S. subsidization of West European military preparations makes the allies feel dependent and is counterproductive because it is strengthening tendencies toward neutrality, political dissociation, and moral disarmament in the region.

West European politicians, however, assert that Washington is defending itself in Europe, and not its allies. Even though they do not pay their share of military expenditures, they make up for this with political loyalty to their senior partner, and frequently in situations in which this support is not in their own interest. After putting all of their reliance on the United States as far as their own security was concerned after the war, ruling circles in Western Europe would like to use the convenient aspects of the alliance with America in their own interest and neutralize its negative ramifications.

To a considerable extent, it was due to American subsidies in the security sphere that they established Western Europe's economic strength and the basis of its political influence in the world. They realize that the redistribution of military expenses will undermine their economic strength. They admit that Western Europe's independence is limited by its military dependence on Washington and that as soon as they put their security in its hands, they no longer controlled it. Besides this, they do not have their own military strategy, concept of European security, approach to disarmament, or even military information—all of this is on loan from the Americans. They are afraid of facing the Soviet Union one on one after the United States' withdrawal from Europe, although they are beginning to realize that the perceptible reduction of the American military presence on the continent is a distinct possibility. They do not want, despite Washington's pressure, to build up conventional forces in Europe, mainly because of financial considerations but also because of the fear that the expansion of NATO capabilities on the level of conventional arms will reduce the significance of the nuclear "deterrent" and allow Washington to cancel its nuclear guarantees and

make them fictitious. This, in their opinion, will increase the risk of war on the continent. It can only be averted, they feel, in one way: by convincing the Soviet Union that the Americans intend to use their own strategic nuclear arsenal in the event of a military conflict in Europe.

The "Soviet factor" had much to do with the change in U.S. relations with Western Europe: Politico-military alliances are usually held together by an outside threat and fall apart when it grows weaker. From the very beginning, the unity of NATO has depended on fear of the USSR: fear of its military strength and of its political system, which is unfamiliar and therefore frightening to the West. The restructuring of the economic mechanism, glasnost, greater openness, including in the outside world, and the non-traditional nature of several Soviet foreign policy moves (the moratorium on nuclear tests, the consent to the "zero option," and the willingness to withdraw troops from Afghanistan) are creating a "new image" for the Soviet Union in the West, especially in Europe.

The possible impact of the Soviet restructuring on international relations in the West is being debated. "Western leaders," remarked J. Dean, former ambassador to the talks on the mutual reduction of armed forces and arms in Central Europe, "are quite confused as to the proper response to the Soviet 'peaceful offensive'.... Should the West base its policies on the assumption that the military confrontation in Europe is entering a phase of genuine de-escalation or on the conviction that the recent Soviet proposals are mainly of a tactical nature?"⁷

Ruling circles in Western Europe realize that they are facing a dilemma, but it is too early to say that they have made a definite choice. This is apparently a situation in which they no longer trust the United States and still do not trust the Soviet Union. The INF Treaty intensified debates of a fundamental nature, and the results of these could predetermine the direction of Western Europe's development for decades in advance. Debates on security issues at the establishment level indicated at least three tendencies.

The first was the tendency to display stronger loyalty to Washington in exchange for the reaffirmation of U.S. nuclear guarantees, compensation for the withdrawn intermediate-range missiles, and the restoration of so-called extended deterrence in its previous dimensions. Forty years of peace and prosperity in the region gave rise to conservative thinking in Western Europe, not only on the level of the ruling elite but also in public opinion. It would be highly reckless, in their opinion, to give up something that already works; everything will eventually return to the way it was before—the United States, the USSR, perestroika, and the new mood in Washington. For West European politicians, "compensation" is a method of preventing the departure, both

their own and the United States', from "nuclear deterrence" and of provoking Soviet reactions which would stop the process of nuclear disarmament altogether or at least for a considerable period of time.

The set of "compensations" discussed by NATO presupposes the deployment of additional American F-111 and FB-111 planes in England, F-15 and F-16 planes in other countries, and sea-based cruise missiles, and the transfer of some American Poseidon and Trident SLBM's and B-52 bombers with cruise missiles to the European theater of military operations. In the opinion of some West European politicians, the withdrawal of American intermediate-range missiles will require the immediate improvement and buildup of tactical nuclear weapons in accordance with the program approved in 1983 by the nuclear planning group in Montebello. The program envisages the augmentation of the Lance missile range to 400 kilometers and an increase in the force and range of other battlefield nuclear weapons.

The issue of "compensation," however, is much more complex than it seemed in the beginning, especially on the nuclear level, and has given rise to acute conflicts within NATO. The INF Treaty forced ruling circles in the FRG to face the disturbing prospect of retaining its status of a non-nuclear country while bearing the brunt of NATO nuclear strategy. The remaining short-range nuclear weapons will unavoidably make the FRG a nuclear battlefield. "The shorter the range, the deader the Germans will be,"⁸ declared F. Ruhe, a prominent Christian Democrat. This "privilege" is hardly likely to please the West Germans. Under these conditions, Chancellor H. Kohl opposed the modernization of nuclear weapons and advocated the resolution of this problem through East-West negotiations (the "third zero").

Belgium and Holland have effectively opposed the plans for modernization. Ruling circles in these countries are worried, in particular, that the deployment of the new Lance missiles will lead, especially after the conclusion of the INF Treaty, to a new wave of mass anti-nuclear demonstrations. There is noticeable opposition to the modernization plans in Turkey, Greece, Denmark, Norway, and Spain. Only the leaders of the United States and England have supported the plans. There is no unanimity on this issue among members of the French ruling elite.

At the spring session of the NATO council (in Brussels on 2 and 3 March 1988), despite strong pressure from the American and English governments, Bonn continued to defend its own position with the support of some West European partners, including French President Mitterrand. The allies eventually approved a vague formula, giving each side a chance to interpret it as its own victory. The session reaffirmed NATO's faith in "nuclear deterrence," which will be maintained even if parity should be achieved in conventional forces in the "foreseeable future." Reagan tried to convince his bloc

partners of the immutability of American "nuclear guarantees," and much was said about Atlantic solidarity. The meeting did not, however, answer the main question: How will NATO continue to survive in the new situation?

The second tendency advocates the military integration of Western Europe. The main incentives for this are the lingering fear of the USSR in West European ruling circles, their increasing distrust of the United States (or dissatisfaction with their military dependence on it), and their realization of the impossibility of safeguarding their security through national efforts. The political prerequisites are contained in "The Single European Act" (December 1985), envisaging the creation of a "region without borders, in which the free movement of people, goods, services, and capital will be guaranteed,"⁹ by 1992, the creation of supra-national organs in which major decisions will require a majority vote rather than a consensus, the creation of a mechanism for cooperation in the foreign policy sphere, etc.

There is also a material basis for military integration—the Bundeswehr, the well-equipped French army, the English and French nuclear weapons, and the growing (national and regional) military-industrial complex. The military integration of Western Europe is most advanced in the sphere of arms production. Back in 1974 an English, West German, and Italian consortium developed the Tornado fighter-bomber, and many West European states subsequently armed themselves with this plane. Now the European fighter plane of the 21st century is being designed, and firms in Great Britain, the FRG, Italy, and Spain plan to take part in the project. France and Italy are working on the Helios military observation satellite, and Spain will probably take part in this project also. England and France have a joint program for the installation of cruise missiles on submarines. Plans for the creation of a West European satellite system to perform reconnaissance functions are being considered. Several of the European Space Agency's programs have a dual purpose: the Hermes shuttle and Columbus space station projects. United effort by West European ruling circles is also apparent in the sphere of the latest weapons systems, satellite communications, and space exploration.

West European military integration also has an institutional basis: On 27 December 1987 the West European Union approved a "platform on European security interests" in The Hague. It says that the "creation of a united Europe will not be complete until the process includes security and defense affairs."¹⁰ The document stresses that the EEC states hope to "take on the full responsibility for Western defense." It is not clear what this actually means, however, because the document goes on to explain that this will entail "a stronger European role in the alliance" (NATO) and that "the presence of American conventional and nuclear forces plays an irreplaceable role in European defense."¹¹ West European leaders apparently assume that the military integration

of their countries will be possible only within the NATO framework. Even Paris, which previously defended the idea of independent military integration, has now taken this stance. It is possible that the West European leaders are playing a tactical game with Washington and that they have bigger plans for the future.

Partial military-integration structures have come into being and could be transferred to the regional level. France and the FRG have formed a defense council which, in F. Mitterand's words, has "European dimensions" and is "open to any interested party." The invitation is addressed primarily to Italy and Spain. A decision has been made to form a joint Franco-West German brigade of 4,200 men. It will be stationed within the FRG and will be commanded alternately by generals from both countries. The brigade is not part of the NATO military structure, and this could create a problem: The Bundeswehr was established for NATO.

Paris has hinted that it is willing to open its "nuclear umbrella" over the FRG. With a view to London's worries about the Paris-Bonn axis, the French Government is also urging military cooperation with England. The defense ministers of both countries have recently had several discussions with regard to the role of their nuclear forces in Europe and the coordination of submarine missile targets.

France is the strongest advocate of military integration. It has always been important for its leadership to establish a leading role for the country in the single Europe of the future. Paris could hardly claim a leading role by virtue of economic strength, because the FRG has greater potential in this respect. If West European integration should develop with an emphasis on military considerations, however, France's chances (because of its nuclear status) would be much better. By involving the FRG in this process, Paris hopes to prevent any possible search for mutual security with eastern neighbors and discourage the convergence of the two German states.

Bonn is well aware, however, that Paris will never entrust it with the nuclear button and that the French "nuclear umbrella" would make the FRG dependent on France instead of strengthening its security. Bonn also hopes to play the first violin in the unified Western Europe, but this means that the economic (or political) aspect, and not the military one, will have to be the main element of the integration process.

The English establishment is eager to discuss military integration, but it has no interest in becoming involved in an undertaking directed by France or the Franco-West German duo. It is much happier with the present NATO structure, in which England occupies a strong position because of its "special relationship" with the United States. As an insular power, it has always tried to influence continental affairs without overburdening itself.

American ruling circles are encouraging the military integration of Western Europe in the expectation that it will take place within the NATO framework and serve as its second support base, leading to the redistribution of the financial burden within the bloc, allowing Washington to reduce its commitments to the allies, disciplining them, and establishing a buffer zone between the United States and the USSR. American experts have also predicted, however, that a militarily integrated Western Europe will be less dependent on Washington and less loyal to it and will place its own interests above Atlantic interests.

The main factors which are impeding and will continue to impede the military integration of Western Europe, however, are economic. It will take hundreds of billions of dollars to establish military strength comparable to Soviet or American strength. In principle, the West European establishment could find these funds, but their transfer to the military sphere would certainly diminish Western Europe's ability to compete with the United States and Japan. It would take the risk of weakening its economic potential at a time when the military parameters of the strength of states (and coalitions) are starting to lose their value.

It is completely obvious that the situation in Europe and East-West relations in general will have the decisive effect on the development of military integration processes. If the current improvement of Soviet-American relations does not lead to a new, more stable, and broader (encompassing all East-West relations) phase of detente, the military integration of Western Europe will probably begin to be developed. If, on the other hand, Europe decides to work toward the constant improvement of the situation, the fundamental resolution of the problem of nuclear and conventional arms, and the elimination of mutual fear, the process of military integration might not be developed or might take the form of some kind of unified military system based on non-aggressive defense principles negotiated by the East and the West. This kind of military integration would reduce Western Europe's military dependence on the United States and would probably not pose any new threat to the Soviet Union.

The third tendency in West European politics puts the emphasis on the Soviet factor in Europe and its new check dimension. "When a world power shatters the bases of the stagnation from which it has suffered along with its neighbors, it and its neighbors have new prospects,"¹² said prominent SPD official E. Bahr. In the opinion of the supporters of this tendency, the main thing now is to take the perestroika in the Soviet Union as a point of departure and then work with the Soviet Union and its Warsaw Pact partners to find a totally acceptable (or mutual) structure of European security. With a view to the basic realities in Europe—the existence of blocs, the asymmetrical strength in some types of weapons, the differences in the geographic positions of the sides, the presence of nuclear and non-nuclear powers, the level of trust between East and West, etc.—these politicians are striving for the joint resolution of the main problem of European security today: to

exclude the possibility of surprise attacks by states (or their alliances) on one another. "Stability between NATO and the Warsaw Pact (and, therefore, in Europe) could be achieved if there were no chance of a successful military attack,"¹³ E. Bahr stressed. This problem could be solved by lowering military confrontation to the minimal level required for defense and changing the structure of armed forces to reorient them to the possibility of defensive actions and the impossibility of broad-scale offensive operations. These ideas have been put forth by neutral states, several social-democratic and liberal parties, and some representatives of the military-industrial complex, who believe that the new structure will necessitate the development of a new generation of defensive equipment.

Even the last session of the NATO council in Brussels could not ignore the West European public's wish to solve the problem of European security with the Soviet Union. "Many of the items on Gorbachev's agenda in connection with arms control were acknowledged in decisions made here,"¹⁴ reported THE WASHINGTON POST. A declaration issued after the session expresses willingness to concentrate negotiations first on weapons with offensive properties; besides this, the announcement says that the process of reducing armed forces and arms should be accomplished in line with negotiated ceilings, and this will do much to eliminate the so-called "numerical problem" that led to the impasse in the Vienna talks on the reduction of armed forces and arms in Central Europe.

Mutual security, its West European supporters stress, is the only possible way of preserving civilization and is also a way of surmounting the "image of the enemy," preventing the division of Europe into hostile blocs, and creating a cooperative, rather than confrontational, Europe capable of working collectively on the resolution of problems facing the people of the continent. There is a definite connection between these ideas and the Soviet ideas about the "common European home," because they also envision a Europe united by common beliefs with regard to security, confidence-building measures, and control. This would be a Europe in which no state would live in fear of aggressive actions by its neighbors. Finally, when we speak of surmounting the division of the continent, we are referring to the mutual adaptation of the different sociopolitical systems, the greater openness of all societies without exception, the convergence of our beliefs and laws in the sphere of human rights, the mutual enrichment of national cultures, and the elevation of the European mass consciousness.

At this time none of the abovementioned tendencies in the development of the situation in Western Europe has been acknowledged as the optimal solution by its leaders. No final choice has been made. This has created a vacuum on the level of political thinking and decision-making with regard to security issues in Western Europe. The American establishment is probably aware of this. "In coming years, [Western] Europe will seek new points of reference in politics,"¹⁵ H. Kissinger remarked. An

intensive search for new bases of ally relations is going on within U.S. ruling circles. The points of view which have been expressed can be summarized as the following.

The first is based on the assumption that there is no special cause for worry: This is not the first or the last crisis of faith in NATO, and it will be resolved in the same way as earlier disagreements. Atlantic solidarity has a strong foundation, it has withstood the test of time, and it needs only a few adjustments. As a matter of fact, the Reagan Administration has recently adhered to this line.

The supporters of the second point of view believe that the crisis in the alliance stems from real causes, especially the disparities in the contributions of the United States and Western Europe to the bloc's military preparedness and the corresponding disparities in their responsibilities. The supporters of this point of view offer simple recipes: In essence, they simply envisage a higher level of West European responsibility, especially financial responsibility, for the state of affairs in the alliance. The redistribution of military expenses within the bloc is being demanded for this purpose. Western Europe would like to occupy a higher status in its politico-military alliance with the United States, and this is a legitimate demand, but it cannot be fulfilled unless it is willing to take on much more of the military burden than it is bearing today. Then it will have the right to make bloc policy on an equal basis with the United States and to demand as much consideration for West European interests as for American interests. Only this can put an end to the mutual accusations of the partners.

The third point of view is that this approach will be futile if Western Europe does not take on the main functions of enhancing its own combat readiness in the sphere of nuclear as well as conventional arms. Western Europe must have its own "nuclear deterrence" potential. As a demonstration of its trust in Europe's new military capabilities, the United States could agree to make a West European general the commander-in-chief of NATO armed forces, and then the secretary-general of the alliance—i.e., its political leader—could be an American.

A fourth point of view is that the West European leaders do not want this kind of redistribution of functions in the alliance because they are comfortable with the American burden and the American responsibility. The only way of forcing them to take on these commitments will consist in reducing the U.S. military presence in Europe or even eliminating it altogether. "Now that the Pentagon budget is being reduced, America's dissatisfaction with its allies will probably help to convince the next president to reduce the number of American troops in Western Europe,"¹⁶ NEWSWEEK commented. Representatives of this new "neo-isolationist" wave believe that the military separation of the United States and Western Europe will force both sides to reassess their alliance, clear up petty misunderstandings in their relationship, and put their cooperation on a healthier basis. The critics

of this point of view assert that an American "departure" from Europe would intensify Western Europe's convergence with the Soviet Union.

The INF Treaty has radically changed the nature of conflicts between the Atlantic partners in the security sphere. It destroyed the consensus on this matter between the United States and Western Europe and within West European ruling circles. This situation will require a departure from standard lines of reasoning and from traditional decisions, but this is precisely what the ruling elite on both sides of the Atlantic cannot do yet. Will they be able to cross the Rubicon separating the confrontational Europe from a cooperative Europe? It appears that they are not ready for this yet, but the situation in today's world is so changeable that there is almost no time at all for lengthy contemplation.

Footnotes

1. NEWSWEEK, 12 October 1987, p 20.
2. DER SPIEGEL, 29 February 1988, p 32.
3. Ibid.
4. NEWSWEEK, 12 October 1987, p 20.
5. D. Calleo, "NATO's Middle Course," FOREIGN POLICY, No 65, Winter 1987/88, p 139.
6. INTERNATIONAL HERALD TRIBUNE, 2 December 1987.
7. J. Dean, "Military Security in Europe," FOREIGN AFFAIRS, Fall 1987, p 24.
8. SUEDDEUTSCHE ZEITUNG, 12 February 1988.
9. "The Single European Act," Brussels, 1986, p 18.
10. THE WASHINGTON POST, 28 October 1987.
11. Ibid.
12. DER STERN, 4 February 1988, p 60.
13. Ibid., 18 February 1988, p 17.
14. THE WASHINGTON POST, 4 March 1988.
15. NEWSWEEK, 12 October 1987, p 20.
16. Ibid., 7 March 1988, p 24.

Researchers Reassess Space Weapons

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[Text] The reaction of the scientific community inside and outside the United States to R. Reagan's appeal to make nuclear weapons "impotent and obsolete" turned out to be far from simple and was certainly not the reaction the President and his closest advisers expected. Scientists began criticizing the idea literally as soon as Reagan had finished making his speech in March 1983. Later, the thorough scientific analysis of the "Star Wars" program never stopped.

Two reports prepared for the Office of Technology Assessment of the U.S. Congress in 1984 and 1985, for example, aroused widespread interest.¹ Profound scientific studies were conducted by the Union of Concerned Scientists, a large (over 100,000 members) social organization.² Technical, political, and other aspects of the "Strategic Defense Initiative" (SDI) were analyzed in studies by the Stanford Center for International Security and Arms Control.³ Criticism of the SDI by well-known scientists, including H. Bethe (the Nobel Prize winner), R. Garwin, K. Gottfried, K. Tsipis, A. Carter, and others, appeared frequently in the Western press.

The criticism of the SDI was supported vigorously by scientists in Great Britain, the FRG, and other Western countries. Some of the activity of the Committee of Soviet Scientists for Peace and Against the Nuclear Threat was also connected with this issue, and this was reflected in the book "Kosmicheskoye oruzhiye: dilemma bezopasnosti."⁴

The analyses focused on means of destroying ballistic missiles. Directed energy weapons (DEW) systems aroused the greatest interest. These are lasers and particle beam weapons—i.e., systems which were not mentioned in the debates of the 1960's preceding the conclusion of the ABM Treaty in 1972. This interest stems from the fact that it is precisely with the progress of DEW that the SDI's proponents are associating their hope of reviving the idea of global strategic defense.

The reaction of the SDI's proponents to the extremely sound criticism of the scientific community usually consisted in assertions that the program research projects were classified top secret and that the critics therefore simply could not know anything about the "breakthroughs" in DEW technology that would supposedly allow for the emplacement of such weapons in space any day now.

Of course, the special inspections of SDI projects conducted on the initiative of Senate members effectively refuted these optimistic assertions,⁵ but the most serious blow to the position of the SDI's supporters was delivered by a document which did not contain the slightest direct criticism of the program. This was "The Science and Technology of Directed Energy Weapons," a report prepared for the American Physical Society by a group of highly qualified experts.⁶

In fall 1982 the American Physical Society (APS) had already arrived at the conclusion that an independent study of directed energy weapons had to be conducted to provide its members and a more general public with objective and non-confidential scientific and technical information. It took a year to put a working group together for the preparation of this kind of report, however, because its members had to be highly professional and politically neutral. The co-chairmen of the group were Harvard University Professor N. Bloembergen, winner of the Nobel Prize (for work in laser spectroscopy), and Bell Laboratories Vice-Director K. Patel, the inventor of the CO₂-powered gas laser. Other members included experts on laser technology and particle accelerators from civilian and defense laboratories; many of them were directly involved in SDI research projects.

The group worked for almost 2 years, and its activities were financed by the APS and private donations. The administration did not try to keep any information secret from the group. The work was supervised by an APS oversight committee, made up of six prominent experts on laser and particle beam technologies, including two Nobel Prize winners.

After fall 1986 the report spent 7 months in the Defense Department and the Department of Energy, waiting for publishing authorization. The manuscript, consisting of more than 800 typewritten pages and over 100 tables and diagrams, first horrified the censors, who classified at least half of the report confidential. Only the persistence of members of the working group forced the bureaucrats to revise the obsolete rules on secrecy, and after this the deletions were not so sizable.

On 20 April 1987 the oversight committee submitted the final draft of the report to the APS board, which made its contents public the next day at a regular meeting of the society.

The report concentrates on the physical principles of the development of high-intensity lasers and high-powered particle beams and on the control of these beams and their penetration of the atmosphere. It also deals at length with such matters as the search for targets in space, the detection of real targets among decoys (the process known as discrimination), and the interaction of beams with the physical substance of targets. Besides this, it examines problems connected with power sources and the complex task of securing the survivability of

space- and ground-based components of the ABM system against countermeasures by the other side. In particular, at the insistence of the oversight committee, the report includes a supplement discussing the integration of separate components in a single ABM system.

The working group intentionally left out another component—the kinetic weapon—although it did mention its role in the total ABM system with space-based elements. It also did not examine some other important components of the ABM system, such as the C³I (command, control, communications, and intelligence) system, computers and software, the reliable interaction of all elements of the complex ABM system, etc.

Other matters which are of indisputable importance but which were left out of the report by an earlier decision included economic and personnel issues and the effects of SDI on arms control, strategic stability, and international and domestic politics.

In the report the DEW technologies are examined in two possible cases: global defense (the defense of all national territory against a nuclear missile strike) and object defense (the defense of only certain regions of strategic importance). The first case presupposes the reliable interception of enemy missiles during the boost phase of their trajectory, and the second puts the emphasis on the reliable discrimination of re-entry vehicles (their detection among decoys) during the midcourse phase of the trajectory. The first case requires more highly technical DEW. The working group's stated aim consisted in describing the present state of DEW technologies and assessing this level from the standpoint of global or object defense.

The main conclusion deserves to be quoted in full: "Although there has been considerable progress in the last 20 years in many DEW technologies, the working group discovered perceptible gaps in the scientific and engineering knowledge of several matters connected with the development of these technologies. There is still too little information at this time to decide whether or not the systems can reach the required level of operational efficiency. The properties of most of the critical elements needed in DEW systems are only a fraction of what they should be. Because all of these elements are interrelated, the improvements must be coordinated. We estimate that even in the best of circumstances, a decade or more of intensive research will be necessary to reach the level of technical knowledge required for a qualified decision on the potential effectiveness and survivability of DEW. Besides this, as far as we know, the information needed to integrate the entire system and solve the problem of its efficiency simply does not exist yet."

This conclusion was not unanimous. Some members of the group did not agree with the time period mentioned in the report ("a decade or more") because it was an

average and did not reflect the diversity of the situation in which some DEW projects might be finished while others might never be completed.

It is interesting to compare the APS working group's conclusion with statements in A. Carter's report on "Directed Energy Missile Defense in Space," prepared for the Office of Technology Assessment of the U.S. Congress back in 1984.⁷ "DEW systems and other devices with the properties needed for the boost-phase interception of ICBM's have not been developed in the form of laboratory models yet, not to mention prototypes that might be included in a full-scale ABM system"; and "it is not clear when the devices with these properties might be developed or whether they can be developed at all."

There is no apparent fundamental difference between the two quoted statements.

The entire APS report essentially resembles a detailed substantiation of its main conclusion in examinations of specific types of lasers and particle beam weapons and all support technologies: space-based power sources, beam monitoring systems, and detection, tracking, and discrimination systems.

The authors of the report begin by defining the requirements the DEW must satisfy to be part of a broad-scale ABM system.

1. For boost-phase operations:

Sufficient reserve power for the destruction of ICBM's;

A beam of sufficient quality, accuracy, and retargeting capability to guarantee the irradiation of the targets with a "lethal" dose of energy within a relatively short time;

A laser beam reaching from the source to the target (for ground-based lasers);

The accurate location of ICBM boosters by their "torch" and their subsequent tracking to kill point;

Reliable kill verification.

2. For midcourse-phase operations:

Reliable methods of discriminating re-entry vehicles until all targets have been destroyed;

The accurate detection of numerous targets, the tracking of each, and the confirmation of the destruction of each target;

Rapid retargeting capacity;

Sufficient power for the destruction of re-entry vehicles.

3. For operations in space:

Sufficient electrical power for the operation of space-based systems;

Peak energy release in combat situations.

4. Lastly, the DEW must remain operable in the adverse conditions characteristic of a nuclear conflict and intensive countermeasures by the potential adversary.

The report then goes on to examine various types of laser weapons in detail.

For a long time the hydrogen fluoride chemical laser was the "favorite." It had one perceptible flaw—its wavelength was so long (around 1 micron) that it required a huge focusing mirror, but the intensity was so great (up to 200 kilojoules per second in a continuous wave) that the hydrogen fluoride laser had virtually no competition. According to the estimates of the APS report's authors, the intensity of this laser would have to be increased at least by a factor of 10^2 , with no change in the quality of the beam, to carry out the simplest strategic defense tasks. The quality requirement makes the simple augmentation of the geometric dimensions of the laser system impossible, and the problem has therefore remained unsolved. New types of chemical lasers (for example, the iodide laser with a wavelength of 1.3 microns) have not reached this high level of intensity, and it will have to be increased at least by a factor of 10^5 .

The interest in chemical lasers began to decline just recently when pulse excimer lasers (for example, the laser powered by krypton fluoride with a wavelength of 0.25 microns or the one powered by biphenyl chloride with a wavelength of 0.3 microns) took their place. The present level of excimer laser technology is distinguished by the release of around 10 kilojoules of energy in a pulse lasting around 1 microsecond from a single module. According to the estimates of the authors of the APS study, the goals of strategic defense will require the release of at least 100 megajoules, which is higher than the present figure by a factor of 10^4 . This kind of sizable discrepancy can only be reduced by the simple augmentation of the number of separate modules of relatively low intensity, but this will give rise to problems in sustaining a high-quality beam and phase correction. As yet, there are either no solutions to these problems or solutions requiring considerable scientific and technical effort.

The large dimensions of excimer lasers and their exceptionally high energy requirements preclude options envisaging the emplacement of this weapon in outer space. Furthermore, even ground-based excimer lasers might be too unwieldy. This has led to the search for other laser systems more suitable for ABM purposes.

The free-electron laser is one of the extremely promising new candidates for this position. It represents a high-current electronic accelerator equipped with a special magnetic system for the generation and amplification of

a laser beam with a random wavelength (or, more precisely, one that can be regulated over a fairly broad range). To date, peak intensity of around 1 megawatt has been achieved with a wavelength of around 1 micron (capable of penetrating the atmosphere effectively). This is below the level apparently necessary for use in strategic defense systems by a factor of 10^5 or 10^6 , however.⁸ Enhancing the intensity of the beam to this degree while retaining the highly effective transformation of electrical power into a laser beam will require the experimental testing of several new physical concepts that are still on the level of theory.

The nuclear-generated X-ray laser is a special case. As the APS report says, many of the physical ideas lying at the basis of the design of this laser still need to be corroborated before the possibility of using the X-ray in strategic defense can be assessed. This is an extremely prudent conclusion, without any political overtones. It is worth comparing to the opinions stated by Stanford University Professor D. Ritson in the article "Weapon for the Twenty-First Century":⁹ "It is completely obvious that the development and testing of the X-ray laser will require complex and contradictory compromises, and at this time it is difficult to predict when the weapon will be developed and what its final properties will be. It is also obvious, however, that this weapon could be developed and could become part of the arsenal of one or both superpowers if timely agreements are not reached on the limitation of research in this field."

The discussion of lasers is followed by a detailed examination of the particle beam weapon. The standard method of creating a beam of fast neutral hydrogen atoms requires the construction of a linear accelerator of negative ions producing particles of energy of several hundred MeV, beam currents of over 0.1 A, and a high-quality beam. The desired parameters have been reached separately. Now scientists must work on the serious technical problem of achieving them in a single accelerator. One of the difficulties is that high energy causes the quality of the beam to decline when the current increases.

Particle beam weapons of this type are to be used for discrimination purposes during the midcourse phase of the trajectory. The assessments in the APS report indicate that the parameters of the accelerator will not change considerably in this case, but a new condition will have to be met—the need for quick retargeting, and this will require special technical studies.

In addition to the work on the development of neutral hydrogen atom beams, which would be effective only beyond the atmosphere, there have been recent studies of pulse high-current electronic beams capable of penetrating the atmosphere. The beam would pass through

the atmosphere in a plasma channel created with the aid of a powerful laser pulse. This kind of laser-electronic hybrid would be able to destroy missiles in boost phase, although the range of altitudes at which it could be used as a weapon would be limited. At this time the electronic beam can be transmitted through gas for short distances, representing only a fraction of the parameters required for ABM purposes. The report says that the intensity of electronic beams must be increased by a factor of 10^3 for the destruction of missiles. The lasers needed for the creation of the plasma channel will also need special development.

The authors of the report then move on to an analysis of a large group of support technologies. After a laser beam passes through the atmosphere, it is known to disperse into heterogeneous elements. This considerably reduces the quality of the beam of ground-based lasers. There is a method of compensating for this parasitic dispersion, and it has been tested with a beam of low intensity under normal atmospheric conditions. The method requires high-speed computers with considerable memory capacity, but there is the suspicion—which no one has been able to refute yet, even theoretically—that it will be impossible to eliminate the dispersion effect in powerful laser beams in the presence of atmospheric turbulence.

As we know, ground-based lasers can destroy targets in outer space if the sky is cloudless. The report says that if the lasers of the ABM system are to be ground-based, at least five independent battle stations will have to be located in different parts of the country. On the basis of U.S. weather statistics, the authors of the report estimate the probability of good weather in at least one of the five locations at 99.7 percent (they do not specify the locations of the five stations). If a network of seven stations should be used, the figure would rise to 99.97 percent. Besides this, they recommend that the effects of scattered clouds be surmounted by the installation of several telescopes at each battle station, located 3 to 5 kilometers apart.

In virtually all assessments of the range of lasers, both the proponents and the opponents of the SDI tacitly assume that laser beam dispersion is limited to the refractive index. Assumptions about the ideal reflective properties of focusing and refracting mirrors seemed just as natural. The report stresses that this kind of idealization cannot be applied to high-intensity beams and large mirrors. In several cases, the necessary technical designs are still lacking.

Detection, tracking, and discrimination systems are discussed at length in the report. It points out the fact that the location of the rocket "torch" alone cannot provide reliable information about the exact location of the boosters. This leads to the conclusion that in addition to the present method of detecting a strong infrared signal from the torch, there should be other passive and active sensors, and these are still in the earliest stages of research.

The infrared signals from re-entry vehicles and decoys are much weaker during the midcourse phase, and they are in another, longer-wave range, complicating accurate angular resolution. Additional methods of passive and active detection are needed. The certain detection of many targets might also require more space stations with detectors and sensors.

If the number of decoys should increase, the discrimination of re-entry vehicles in the midcourse phase will be of exceptional importance to the entire SDI program. At this time, what is known as interactive discrimination, based on the DEW technology, seems to be the most promising method, but the study of this approach is still in the earliest experimental stage.

The peak power load of space battle stations with directed energy weapons is calculated in gigawatts, which would be equivalent to the consumption of at least 5 tons of chemical fuel per minute. Even in non-combat situations, however, the continuous power consumption of a large station could range from 0.1 to 1 megawatts, which can only be provided by a space-based nuclear reactor. Furthermore, there will have to be many such reactors, almost the same number as the number of battle stations in space. The technical problems this would entail have not been studied in full yet, but it is already apparent that the cooling of a large space-based power unit will be an exceptionally difficult problem to solve.

Finally, there is the problem of the survivability of DEW systems, which is probably the most unpleasant problem for the proponents of the SDI. As the report points out, the possibility of adequate survivability is still in question. The report recommends the use of a systemic approach to clarify this possibility, taking various aspects of the neutralization of the other side's countermeasures into account. The following aspects of the problem of survivability are singled out for special discussion in the report. First of all, objects on the ground cannot be considered sufficiently survivable: In some cases they will be of such great strategic importance to the adversary that he might use any attack system for their destruction. Second, space-based objects will be particularly vulnerable during the deployment of the ABM system. Because deployment will take a long time, the adversary could prepare an adequate group of countermeasures. For this reason, the space defense system should also have the capability of repulsing any conceivable countermeasure, since the exact measures chosen will not be known at the time of deployment.

Even if the work on DEW systems does not lead to the development of effective missile defense, it will produce antisatellite weapons and, in particular, methods of counteracting any component of a space-based ABM system. In the latter case, as the authors of the report remark, an X-ray laser launched during an alert could be particularly dangerous, but only if its properties can be raised to the level of a weapon.

If we now return to the conclusions stated in the APS report, we will easily see that virtually all of them have already been used to some degree as arguments by the opponents of the SDI. Furthermore, they have always given these arguments certain political overtones. The APS report is unique because it is absolutely politically neutral but nevertheless leads the reader to inescapable conclusions. The American Physical Society, which unites around 40,000 prominent American scientists, is an organization which could never be called anti-military in the way that other organizations, such as the Union of Concerned Scientists, are, and for this reason proponents of the SDI of any caliber cannot disregard its report. If for no other reason than this, the APS study is of special importance. It is interesting that the APS board could not avoid a political declaration and made a public statement the day after the report was issued, summarizing its contents and then going on to say the following:

"The board feels it is its civic duty to express misgivings about certain aspects of the SDI outside the DEW issues discussed in the report.

"1. Even the extremely small percentage of nuclear weapons penetrating the defensive system will result in human suffering and death on an unprecedented scale.

"2. It will probably take decades to develop (if it is possible at all) an effective, reliable, and survivable defensive system.

"3. Given the present level of technical uncertainty, the development of a prototype or individual components of SDI could be a colossal waste of money and human resources.

"Because of the huge gap between existing technology and the progress needed for the development of effective missile defense, the SDI program cannot be the governing factor in planning U.S. security and the arms control process.

"In the opinion of the APS board, the early deployment of SDI components in space should not be undertaken."¹⁰

Some members of the working group expressed their disagreement with the board's action because it, in their opinion, was inconsistent with the condition of political neutrality set for the working group preparing the report.

The issuance of the APS study was front page news in American newspapers, and the contents of the report were summarized in some magazines. For several months the members of the working group addressed numerous scientific conferences to inform the American and world scientific community of the main conclusions of their study.

The SDI Organization (SDIO), which had cooperated with the authors of the study during its preparation, praised the report at first, but the tone of statements by SDIO spokesmen soon began to change. It is possible that they gradually realized how seriously public opinion could be influenced by the report. High-level organization officials began calling the report excessively pessimistic.

Without officially criticizing the APS report, the SDIO began distributing papers by Livermore and Los Alamos laboratory researchers Wood and Canavan, in which the authors of the report were blatantly attacked.

The public campaign against the APS study began on 19 May 1987 when Wood and Canavan addressed Republican members of the House of Representatives. The next day the campaign was joined by former APS President Seitz, now the chairman of the scientific advisory council on the SDI. The authors of the report were accused of making serious errors, and the APS itself was accused of lowering the standards of scientific publications for political purposes and substituting political declarations for scientific work.

The statements by Seitz, Wood, and Canavan caused 39 congressmen to launch an official inquiry into the accuracy of the report's findings. President V. Fitch of the APS issued a statement to the press, saying that there was no reason to accuse the authors of the report of flagrant errors. These accusations stemmed from their critics' unjustifiably optimistic ideas about the potential capabilities of several advanced technical devices, their own physical errors, and the outright juggling of facts. Wood and Canavan tried to use typographical errors in the first draft of the report for political purposes. All of these regrettable inaccuracies were naturally corrected in the final draft, published in the REVIEW OF MODERN PHYSICS.

An independent study conducted by the Committee of Soviet Scientists for Peace and Against the Nuclear Threat even before the issuance of the official APS response also concluded that the criticism by Wood and Canavan had no scientific basis.

The arguments over the APS report in the United States reaffirmed the opinion of the majority of the scientific community with regard to problems in missile defense in connection with weapons based on new physical principles. The high scientific and technical level of the reports issued by the American Physical Society on many matters of concern to the public was demonstrated during these debates.

The Office of Technology Assessment of the U.S. Congress recently prepared another report by a non-partisan research group. After delaying its publication for several months, the Pentagon allowed it to be printed in May but ordered the deletion of three chapters. In this report the Office of Technology Assessment concludes that the

missile defense system proposed in SDI will probably "fail catastrophically" the first and, consequently, only time it is used for the defense of the United States. In general, the report says, there is too much in the SDI that requires blind faith and is not supported by scientific data.

The arguments over the SDI have flared up stronger than ever; the discussion of the financial aspects of the problem also poured oil on the flames.¹¹

Footnotes

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4. "Kosmicheskoye oruzhiye: dilemma bezopasnosti" [Space Weapons: Security Dilemma], edited by Ye.P. Velikhov, A.A. Kokoshin, and R.Z. Sagdeev, Moscow, 1986.
5. "SDI: Progress and Challenges (Part Two). Staff Report Submitted to Senator William Proxmire and Senator J. Bennett Johnston," 1987.
6. "APS Study: Science and Technology of Directed Energy Weapons," REVIEW OF MODERN PHYSICS, 1987, vol 59, No 3, pt 2.
7. "Directed Energy Missile Defense in Space."
8. By its nature the free-electron laser is a pulse laser. With the stated intensity of 1 megawatt, maximum pulse energy release is a few joules per second.
9. D. Ritson, "A Weapon for the Twenty-First Century," NATURE, 6 July 1987, pp 487-490.
10. BULLETIN OF THE AMERICAN PHYSICAL SOCIETY, 1987, vol 32, p 1475.
11. In this issue, see: S.M. Samuylov, "SDI: The Debates Continue"—Ed.

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Domestic, Foreign Aspects of U.S. Oil Industry
18030011a Moscow SShA: EKONOMIKA, POLITIKA, IDEOLOGIYA in Russian No 7, Jul 88 (signed to press 15 Jun 88) pp 36-45

[Article by Igor Kamil'yevich Lavrovskiy, candidate of economic sciences and senior research associate at the Power Engineering Institute of the USSR Academy of Sciences and the State Committee for Science and Technology]

[Text] What lies at the basis of the dramatic changes in the world energy situation is not the accidental concurrence of a few events, but a group of intense processes taking place deep within capitalist production.¹

The global nature of the energy crisis and the objective difficulties connected with the prospecting and extraction of natural energy resources in most countries would seem to have assigned secondary importance to the effects of conditions in the U.S. oil industry on the energy situation in the capitalist world, but this influence is quite strong in spite of the fact that American and other Western TNC's have lost their monopoly in the sphere of crude oil production and sales.

Distinctive Features of the Reproduction Process in the U.S. Oil Industry

The period of the establishment of the American oil industry lasted from the middle of the 19th century to 1919-1923, when the first protracted recession took place. It was in 1919 that the demagogic inflections of panic, which are so characteristic of the apologists of American oil monopolies, first appeared in the press. London's SPERLING'S JOURNAL predicted: "Soon the United States' crude resources, on which its industrial superiority rests, will be depleted. America has exhausted its own oil reserves."² At this time the price of crude oil tripled in comparison to the 1913 level. Subsequent changes took the same direction: The price of crude oil doubled between 1933 and 1937, and the price rose almost 1.5-fold between 1943 and 1956. Periods of rapidly rising prices alternated with periods of gradual decline. This testifies that the oil crisis of the 1970s and early 1980s was not unique in many respects and should be examined within the context of the entire history of the industry's development.

One of the distinctive features of the formative years of the American oil industry was the rapid growth of investment volume, stimulated by the existence of potential demand exceeding production capacity. For 60 years—from 1859 to 1920—there were no clearly defined lengthy periods of rise and decline in investment dynamics (the main indicator of these is the annual volume of drilling: 60-70 percent of all capital investments in exploration and production are connected with drilling), although there were pronounced annual fluctuations. In the 1920's American oil production reached "maturity" and the industry entered a stage of dramatic

fluctuations in commercial activity for a period exceeding the length of the cycles in the processing industry and the economy as a whole (see figure [not reproduced]).

What is the material basis for the hypothetical "oil cycles"? The main element of fixed capital in the oil industry is the total number of producing wells, which account for 40-50 percent of the value of the fixed assets of the leading U.S. oil companies.³ "Different elements of fixed capital...have different periods of circulation, depending on the length of their service life and, consequently, the time of their reproduction,"⁴ said K. Marx. It is natural to assume that the length of cycles in the oil industry depends on the reproduction time of the main element of fixed capital—the average "lifespan" of producing wells. This means that investments in exploration should become more active as the capital embodied in production capacities loses value. The supply of producing oil wells requires periodic renewal and constitutes the basis of these capacities. More active drilling is financed by higher profits, which are secured by higher prices. In the history of the American oil industry there have been five such cyclical periods of growth, peaking in 1904, 1920, 1937, 1956, and 1981. The figure illustrates the dynamics of the annual drilling of wells in the United States from 1859 to 1986 with moving averages (with a time lag of 3 years). It clearly indicates the cyclical nature of the reproduction of oil production potential. The presence of a periodic element in the long-term dynamics of drilling is also confirmed by the results of spectral analysis.

The time intervals between cyclical peaks were 16, 17, 19, and 25 years respectively. The hypothesis regarding the decisive role of drilling in determining the dynamics of industry development is supported by the correlation of the length of cycles and the average operating life of wells in the United States. For example, from 1900 to 1920 the "lifespan" of wells was 15-17 years. The improvement of the quality of structural materials and construction technology increased the operating life of wells to 20-22 years in 1925-1935 and to 25-30 years in the 1960s and 1970s. The low points of the cycle depend more on attendant circumstances than on the time of peaks of investment activity, and for this reason the intervals between them are not as uniform.

In spite of the considerable amplitude of periodic fluctuations in commercial activity, the total number of operating wells in the United States rose almost continuously for close to a century. The first serious disruption of the process of expanded reproduction occurred at the time of the lengthy recession which began in the second half of the 1950s and lasted until 1973, when the number of producing wells was 17 percent lower than the maximum pre-crisis figure. This recession of unprecedented severity in the American oil industry and the protracted oil crisis of the 1970s and early 1980s were apparently due to the disruption of the "natural" course of capitalist

reproduction in the industry as a result of state-monopoly regulation and the United States' loss of its "energy autocracy" by the beginning of the 1970s.

The complete elimination of oil price controls within the United States in 1981 led to a new peak of investment activity in the industry in 1981 and 1982. The peak has passed and there are several indications that the American oil industry has entered a lengthy period of declining commercial activity with all of its attributes, particularly the decline and stabilization of oil prices.

The exact features of the cyclical dynamics of development in the U.S. oil industry in the future will undergo changes that would be difficult to predict because they will be caused by the complex interaction of political and economic factors. The fundamental dynamic features of the reproduction process in the industry will not disappear, however, and neither will the need to renew the physical component of productive capital. An accurate assessment of these properties could provide the key to forecasts of the energy situation and its anticipated aggravation in the future.

International Ramifications of U.S. Oil Crisis

The specific features of the development of the American oil industry might be regarded as a special case if not for their serious international ramifications. If the energy crisis is seen as a real discrepancy between demand and potential supply or as the "fatal" depletion of the extractive industry's resource base, then the presence of any kind of objective reasons for the crisis in the 1970s in the main capitalist oil-producing countries, with the exception of the United States, has to be denied. The production capacities developed in the OPEC countries by the beginning of the 1970s are still not being used in their entirety. It was precisely at this time, however, that contradictions in the development of the oil sector of U.S. power engineering were dramatically intensified and seemed to serve as the catalyst for the capitalist energy crisis.

In spite of the gradual reduction of the U.S. share of energy resource production and consumption in the capitalist and developing countries, the American oil industry still holds the "controlling stock" in capitalist power engineering. The position of oil companies, which also dominate natural gas production in the United States, was strengthened immeasurably by the power of the entire American economic machine and by direct political support from the government.

Most of the material base of the capitalist oil industry is concentrated in the United States (over 80 percent of all oil wells in the non-socialist world), and the United States also absorbs the lion's share of the investment resources of energy corporations (in 1985, 84 percent of the combined capital investments of American oil companies were used for the development of production within the United States). The scales of investment,

production, and sales operations in the American market are the reason why the state of the U.S. oil sector is so important to the "health" of capitalist power engineering in general.

The postwar policy of monopolies on oil prices, which was supported by the U.S. Government, was intended to expand the oil sales market. American oil companies conquered the large energy markets of Western Europe and Japan with a price war which allowed even insignificant American companies to achieve huge dimensions at the expense of the West European coal industry and other local energy producers.

Price controls in the United States served as a lever in the machinery of state-monopoly regulation, stimulating economic growth by lowering national production costs and replacing live labor with relatively cheap and then plentiful energy.

Government control of the prices of energy resources in the United States was accomplished indirectly in the 1950s and 1960s—by means of the regulation of gas prices in interstate commerce. The gas market was chosen as the object of control because of the presence of large undeveloped resources of natural and casing-head gas and the relatively high effectiveness of the control of gas deliveries, which were made mainly through a network of pipelines connecting producers with consumers. Because energy resources were largely interchangeable, the low gas prices kept the prices of competing resources low—coal, oil, and electricity. This price policy increased the demand for energy, thereby stimulating economic growth based on the use of highly productive technology and causing "surplus" capital to leave the industry and the country. This prevented the "premature" depletion of national oil resources and helped American companies dominate foreign markets.

One of the side-effects of government regulation of the energy market was the disruption of the mechanism of price adaptation to the conditions of supply and demand and its adjusting function. The stabilization of prices intensified the protracted cyclical slump in commercial activity between 1956 and 1973 and contributed to the United States' loss of "energy independence."

The stabilization of oil prices in the 1950s and 1960s and the gradual rise in production costs within the country as a result of the depletion of resources lowered the average profit norm in the U.S. oil industry. From the middle of the 1950s to 1973-1974, it was lower than the average for all branches of American industry in all but a few years. In 1972 the profit norm in the U.S. oil industry was 8.4 percent, while in the processing industry it was 11 percent.⁵

Declining profitability caused the oil companies to reduce capital investments in exploration and production in the United States. Investment volume in constant

prices was reduced by almost half between 1956 and 1971. As a result, the increase in known oil reserves was 1.7 times higher in 1951-1956 than in 1971-1975.

From 1966 to 1973 the demands for higher oil prices turned into a constant refrain in the printed and oral statements of representatives of the U.S. oil business. Studies conducted by the Gulf Oil Company indicated that if the oil industry did not raise the profit norm to 15-20 percent—i.e., approximately 1.5-fold—in the 1970s, it would be unable to generate funds for its own development.⁶

The declining growth rates of oil and gas reserves and output were accompanied by a decrease in U.S. self-sufficiency in crude oil, and this meant that the country had to increase imports of crude and refined products.

The increased flow of cheap imported resources posed a serious threat to the oil and gas industry in the United States, which could suffer the same fate as the coal industry in the West European countries when it was ruined by shipments of cheap Middle Eastern oil in the 1960s. Ruling circles in the United States realized that this was a crucial turn of events. By 1959 President D. Eisenhower had already instituted the system of import quotas that lasted until 1973.

It must be said that absolute import volumes did not pose a direct threat to the existence and economic effectiveness of the American oil industry. American foreign trade statistics clearly show an almost fivefold increase in oil imports between 1970 and 1979 in spite of repeatedly announced attempts to regain "energy independence." Furthermore, the increase in U.S. imports was not due to the low level of world oil prices, as some people believe. These prices rose as the imports increased. Imports reached their peak in 1977-1979 (310-320 million tons), when world prices had already increased sixfold.

The threat to the U.S. oil industry was not posed by "imports in general," but by imports of cheap oil. In 1973, before the time of the "Arab oil embargo," R. Nixon agreed with the conclusions of a government energy commission which recommended a rise in the prices of imported oil to stabilize American oil prices at a new and higher level and to stimulate investment in the development of U.S. energy resources.⁷ This testifies that the administration and the oil business had agreed by 1973 that a rise in oil prices was necessary. High world oil prices actually played the role of a protective tariff for the American oil industry, rescuing it from ruinous competition with the growing shipments from abroad.

The oil imports of the United States' main allies—Western Europe and Japan—displayed a tendency toward reduction or at least stabilization after 1973.

Therefore, the reduction of import volumes in other countries and virtually the entire increase in world exports from 1973 to 1979 were absorbed by the United States.

If all price controls on oil produced within the United States had been lifted in 1973 and 1974, this could have had unpredictable ramifications for non-energy companies in the United States, which would have encountered the same need as their European and Japanese competitors for a dramatic increase in expenditures on energy. Although Presidents Nixon, Ford, and Carter repeatedly requested Congress to lift price controls without delay, influential groups of monopolist capital were able to postpone the elimination of oil price controls for 8 whole years, until 1981. As a result, domestic prices of oil and petroleum products rose more slowly in the United States than in the world market, and this allowed the American economy to adapt gradually to the changing energy supply conditions.

The oil crisis once again demonstrated the United States' willingness to solve its own economic problems at the expense of the rest of the world, including its closest allies. For this, however, the United States had to have opportunities to influence conditions in the world oil market in its own favor in the 1970s. These opportunities did exist and were created by the temporarily coinciding interests of American monopolies and the governments of the United States and the oil-exporting countries.

The Organization of Petroleum-Exporting Countries (OPEC) was created in 1960 after the giant oil companies lowered the price of oil again in 1958. The new organization's attempts to raise prices unilaterally in 1967 and 1970 and similar actions by individual members (Libya, Iran, and others), however, were unsuccessful. The transnational oil companies redistributed purchases and production and thereby nullified the efforts of the exporting countries. In December 1970 OPEC began negotiations with the oil TNC's on the establishment of a 55-percent tax on oil revenues, a rise in the level of list prices, and the elimination of the system of discounts and differentials in the prices of individual OPEC members. This time OPEC had an invisible but substantial argument on its side—the ability to flood the U.S. domestic market with cheap oil to hurt the American oil industry. Agreements reached between 1971 and 1973 recorded a compromise. The TNC's came to an agreement with OPEC on new rules of play on terms benefiting the oil companies: OPEC would allow them to control the international oil business as a whole, the oil companies would pass the projected price increase on to their consumers, and OPEC would be allowed to produce as much oil as the TNC's would need up to 1982. In turn, TNC spokesmen agreed to the redistribution of crude oil sales income in favor of the exporting countries.⁸ Government support was also forthcoming:

Under Secretary of State J. Irwin assured the Persian Gulf countries that the oil companies would observe the price agreements as long as deliveries continued uninterrupted.⁹

Therefore, OPEC's behavior could not have come as a "surprise": There was time for coordinated action by the main forces in the capitalist oil business—the oil companies, the exporting countries, and the U.S. Government. The Arab-Israeli war was apparently only a convenient excuse for the subsequent quadrupling of prices in 1973 and 1974.

In our opinion, the anti-imperialist thrust of OPEC's actions should not be exaggerated. It is no secret that the main role in the organization is played by pro-American Saudi Arabia, and the shah's regime in Iran occupied an important place until 1979.

The special position occupied in OPEC by Saudi Arabia, with its oil resources of unique quantity and quality, has been secured by American capital. With its direct participation, a broad-scale campaign of exploratory drilling was launched in the country in the 1960s, compounding its oil production potential greatly and guaranteeing Saudi Arabia's attainment of maximum revenues from oil sales in the 1970s. Iran ranked second (after Saudi Arabia) in oil exports for a long time. When American companies were preparing to raise prices, they did everything within their power to put most of the money in the hands of the regimes then following in Washington's wake.¹⁰ At the beginning of the 1970s, Saudi Arabia, with the approval of the U.S. Government, began secretly allocating billions of dollars to various movements and governments in dozens of countries with the aim of "supporting Western anti-Marxist interests."¹¹ In this way, the strategic alliance with Saudi Arabia became an important factor in American foreign policy and gave the United States a certain measure of control over OPEC actions. Saudi Arabia, with its huge reserve capacities, is the only member of the organization for which a quota has never been set on oil production. In 1979 and 1980 Saudi Arabia increased its output to the record level of 488.7 million tons a year to stop the rise in prices, which was already undesirable from the standpoint of the Saudi leadership, a leadership closely allied with American ruling circles.

In the 1970s the control of capitalism's oil supply effectively underwent a process of redistribution: Western oil companies gave exporting countries a chance to share in profits but also gave them the responsibility for stable production and the consequent political and economic risks. They transferred the emphasis in their own activity to the development of technologies for the exploration, production, processing, and sales of crude energy resources and to operations in their own countries.

Therefore, an analysis of the distinctive features of the reproduction process in the American oil industry and the "special relationship" between the United States and

some influential OPEC members proves that the oil crisis was inevitable, describes its mechanism, and explains its time frame. The causes of the unprecedented rise in oil prices, however, are still not clear.

Oil prices in the United States were high not only in the 1970s and 1980s but also from 1859 to 1870, at the time when the American oil industry came into being. We can assume that high prices are connected with the formation of a new market and the achievement of a new qualitative status: In one case this was the formation of the national market, and in the other it was its merger with the world oil market. The second of these processes was different from the first in its degree of politicization: In the absence of any real shortage of resources in the main oil-exporting countries, world market prices could not be raised without creating an artificial shortage by the limitation of OPEC production and a series of surreptitious actions by oil monopolies.

As long as there is a relative shortage of a commodity, the level of market prices depends largely on the producers who are in a comparatively worse position. Consequently, the price "ceiling" in the world market today is the cost of oil production in the North Sea, in Alaska, and in other regions with the same level of capital expenditures.

It must be said that it is wrong to speak, as some people do, of the permanent rise in the cost of producing liquid fuel in the industrially developed capitalist countries. The cyclical development of the oil industry is accompanied by fluctuations in prices which regulate the oil supply system. A shortage of production capacities causes the price of oil to rise, and this secures the necessary capital investments; later, after investment activity peaks and there is a relative over-accumulation of capital, the prices of equipment, materials, and services drop, stimulating the expansion of the market and increasing the load of capacities. This is happening now. The cost of drilling in the United States is no more than 60 percent of the peak 1981 figure; at least 25 percent of the productive potential of the oil industry in the capitalist and developing countries is not being used. The underloading of capacities in exploration and production has a strong effect on production costs (the number of operating wells in the United States at the end of 1986 was equivalent to only 22 percent of the 1981 figure).¹² The speed with which the U.S. oil industry reacted to the lifting of price controls, reflected in the doubling of drilling volume in 1979-1982 and then in falling prices, was impressive testimony, in our opinion, in support of the ideas expressed above about the oil crisis.

The high oil prices in the 1970s and early 1980s stimulated investments in exploration and drilling in virtually all countries. From 1973 to 1986 the output of oil outside the OPEC countries¹³ increased by more than 600 million tons a year. Several new countries joined the group of large exporters—Great Britain, Norway, Mexico, Colombia, Oman, and others. The situation will

depend more and more on competition between all exporting countries, whether they belong to OPEC or not. If the war between Iran and Iraq should end, this competition could lead to a new drop in oil prices in the world market.

The drop in world oil prices in 1986 pointed up the need for a limit on price changes. The elimination of a shortage weakens the economic foundation for pricing based on maximum production costs and increases the role of average costs. For this reason, there is a possibility that in the next few years world market prices will not fall below average production costs in the main oil-producing countries, including the United States. This could be estimated at around 5-10 dollars a barrel (the 1986 figure). A drop below this level is unlikely because it could be redressed with new purchases of oil to add to U.S. strategic reserves and the manipulation of the reserve capacities of Saudi Arabia and some other OPEC countries.

Looking Ahead

The future prospects of power engineering are unknown. Resource restrictions in the sense of physical "growth limits" do not seem to play an important role in the development dynamics of the industry. According to available estimates, known deposits of common oil—i.e., oil which can be recovered without serious changes in technology and economic conditions—in the United States are completely adequate to secure an annual output meeting the current level for the next 40 or 45 years. The more active drilling in the beginning of the 1980s will probably increase known oil reserves in the United States in view of the usual lag of 5 or 6 years between the discovery of resources and the determination of their exact quantity.

The rise in oil prices stimulated important technological changes which considerably enhanced the effectiveness of the entire exploration and drilling cycle. Above all, these changes were a result of the rapid computerization of the industry and an overall increase in scientific input.

The effect of rising prices on oil output in the United States must not be underestimated. First of all, given the price level of the early 1970s, oil production would probably have continued to decrease after passing its peak in 1971, and this would have made the country even more dependent on imported oil. Second, there is the delay in the return on capital investments and in decisions on additional investments following changes in market conditions. This lag has been estimated at 5-8 years. Consequently, an increase in oil output as a result of investments dictated by the rise in prices in 1973 and 1974 might have been expected in 1978-1980, and the increase resulting from investments dictated by the rise in 1979-1980 could therefore be anticipated after an interval of equal length. The growth of oil production in

the United States after 6 years of gradual reduction attests to the accuracy of these assumptions. In 1986, for example, the output of crude oil was 10 percent greater than in 1976.

The figure projects the dynamics of total operating wells in the United States up to 2010—i.e., during the period of the active use of production capacities created in the cyclical phase of growth in the early 1980s. According to these projections, which reflect the point of view of the author and correspond to the concept of cyclical branch development, this activity peaked in 1981-1982 and the American oil industry then entered a new protracted recession. This hypothesis is supported by the reduction of drilling expenditures, the underloading of drilling equipment and, of course, the considerable slump in drilling and investment activity after 1982. This indicates that the number of operating wells in the United States will be just over 600,000, the same number as today. The average productivity of wells will remain close to 700 tons a year or will increase slowly as a higher yield compensates for the progressive depletion of deposits. On the basis of these assumptions, the annual output of oil in the United States can be estimated at 400-450 million tons up to the end of the forecast period, which will allow the United States to keep its position as one of the leading oil-producing countries.

The slump in investment activity in the American oil industry strengthened the tendency toward monopolization and the concentration of capital. As K. Marx wrote in chapter XV of "Das Kapital," "when the price of a product drops, part of the capital is lost...and must therefore be replaced by new advance capital."¹⁴ These advances are being accomplished primarily through mergers and takeovers, and the American oil industry has experienced a merger boom that even such giants as Gulf Oil, Getty, Conoco, and others could not withstand.

The stepped-up monopolization of the American oil industry and the gradual reduction of possibilities for the profitable investment of capital within the country could have serious international ramifications. According to Professor P. Odel (Netherlands), a leading Western energy expert, "the position of Western policymakers is erroneous in the sense that they were unable to create the appropriate institutional and financial prerequisites for the expansion of the oil production potential of developing countries, which have the best chance of discovering oil...and which suffered the most from the difficulties in obtaining oil and the rise in oil prices after 1973."¹⁵ In view of the fact that the possibilities for the investment of capital resources accumulated by American oil companies in oil production in the United States have been almost completely exhausted, and that countries in the Near and Middle East, Southeast Asia, Africa, and Latin America will have to deal in the next decade with the problem of fixed capital renewal that the United States faced in the beginning of the 1970s, it is clear that conditions are now taking shape for a new wave of American oil expansion in the developing countries.

The changes in the energy situation, which came as a surprise to many people, gave rise to several hypotheses that proved to be untrue: the neo-Malthusian ideas about the depletion of oil resources, the story about the "OPEC conspiracy," and even the classification of oil as a "special type of commodity." The essence of the energy crisis, however, is not a matter of political shifts or the geological features of oil fields. The changes in the energy supply are a natural result of the internationalization of the capitalist economy, which entered a new phase in the 1970s: The once separate national and regional markets combined to make up a single world energy resource market, dominated by the United States. This was why the crisis in U.S. energy production affected the entire world capitalist economy. An understanding of the mechanism of this process will aid in an objective assessment of American energy policy and lay a new foundation for forecasts of the development of the world energy situation.

Footnotes

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3. Calculated according to data in "Moody's Industrial Manual," 1980, pp 1076, 3088, et passim.
4. K. Marx and F. Engels, "Works," vol 24, p 205.
5. BUSINESS WEEK, 2 February 1974, p 54.
6. OIL AND GAS JOURNAL, 1975, No 33, p 33.
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9. FOREIGN AFFAIRS, April 1973, p 473.
10. In 1974 Saudi Arabia and Iran received around 50 percent of the "petrodollars" paid to the group of leading exporters.
11. THE NEW YORK TIMES, 23 June 1987.
12. OIL AND ENERGY TRENDS, February 1987, Table 5-3.

13. With the exception of the socialist countries, the United States, and Canada.

14. K. Marx and F. Engels, Op. cit., vol 24, p 328.

15. ENERGY POLICY, January 1984, p 7.

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Jesse Jackson Phenomenon

18030011b Moscow SShA: EKONOMIKA, POLITIKA, IDEOLOGIYA in Russian No 7, Jul 88 (signed to press 15 Jun 88) pp 46-51

[Article by A.N. Darchiyev: "The Jesse Jackson Phenomenon in the 1988 Campaign"]

[Text] As the election campaign in the United States picks up speed, the presidential candidates from both parties, Democratic and Republican, are trying to win the support of various social and racial or ethnic groups in the American society. A factor of crucial importance to Democratic candidates is the support of black Americans, the largest racial minority in the United States, representing more than 12 percent of the population.

In the last few campaigns black Americans have invariably supported the Democratic Party, usually representing at least 20 percent of all registered Democrats. This "special relationship" between the Democrats and the black community took shape throughout the 1960s and 1970s, when the liberals heading the party were pressured by mass social protest movements to pursue a policy envisaging the guarantee of civil rights for the black population and measures to improve the socioeconomic status of blacks in exchange for their votes.

In the late 1970s and early 1980s, the Democrats began revising many aspects of their policy in this area. The rightward shift following the arrival of the Reagan Administration led to the collapse of the traditional liberal-reformist party line. It no longer satisfied ruling circles or a certain segment of the middle strata, the members of which were disturbed by the high taxes they had to pay in order to finance social assistance programs for poor and black Americans. As a result, after the 1984 elections, in which the Democrats were soundly defeated, the party leaders broke the "social contract" and renounced many of their earlier commitments to the black community. Current adjustments in the party line are moving in the direction of the effective refusal to consider the "special interests" of the party's black supporters and other groups in the American society which have traditionally affiliated themselves with the party—labor unions, ethnic minorities, the leftist intelligentsia, women, young adults, and college students.

The position of these groups within the party, represented by leftwing liberal organizations and politicians, had grown weak by the middle of the 1980s and their influence in party policymaking had been reduced perceptibly. They were supplanted by the powerful bloc of conservatives and centrists from the southern states, headed by Senators S. Nunn and A. Gore, Jr.,¹ and the group of young "neo-liberal" politicians campaigning for the presidency this year (M. Dukakis, R. Gephardt, and B. Babbitt).² On the other side of the centrists, there are a few politicians from the group of "old" liberals who are still loyal to the reformist policies of the 1960s. These are Governor M. Cuomo and Senator P. Simon, who is one of the candidates in the current race. They are supported by labor unions, ethnic minority organizations, and some black community leaders.

The majority of black Americans and almost all of the leading organizations defending their interests, however, support Baptist Minister Jesse Jackson, who is campaigning for the Democratic nomination again, just as he did in 1984. Jackson opposes the policy lines of the Reagan Administration and of the conservatives and centrists in the Democratic leadership. He is one of the leading members of the party left wing; he makes demands in the interest of black Americans and of larger groups. His platform promises more vigorous reformist activity in the interest of the poor, radical cuts in military spending, nuclear disarmament, and the renunciation of all forms of interventionism.

With the support of black voters, Jackson was in third place among the Democratic candidates in 1984 in the primary elections and the balloting at the party convention. His definite success soon began to be called a "phenomenon." After he entered the current race, the Jackson phenomenon became a factor capable of uniting the disparate forces of the Democratic Party's left wing. Now that the 8 years of the Reagan Administration are coming to an end, leftwing Democrats are more inclined than before to support Jackson.

The Jackson phenomenon has already transcended the boundaries of the black community, which still represents an important force exerting pressure on the Democratic leadership from the left. Occupying the lowest rungs of the social ladder, black Americans attach greater importance than whites to questions of social justice. According to a survey conducted in 1987 by the Gallup Institute, 58 percent of the black respondents listed aid to the needy and to minorities and the guarantee of equal opportunities for all citizens as primary objectives. Only 17 percent of the whites expressed this opinion; only 22 percent of the whites admitted that they were experiencing serious financial difficulties, whereas the indicator among black Americans was 41 percent.

There have been positive changes in the status of the black community since the 1960s, and many of its members now have the opportunity to become active in politics, to acquire an education, and to have a career in

business. According to data cited at last year's convention of the largest organization of black Americans, the National Association for the Advancement of Colored People (NAACP), the total number of black politicians in elected offices, which was below 200 in 1959, has now reached 6,500, including more than 300 mayors of cities. The number of black college students rose during the same period from below 250,000 to over a million. The total income of black Americans also rose, exceeding 200 billion dollars in 1987.

This rise, however, did not reduce the gap between blacks and whites. The perceptible enhancement of well-being was confined to certain substrata of the black community which reached the level of the "middle class," and some members of this community even became millionaires. In the 1980s there has been a tendency toward the reduction of the socioeconomic homogeneity of the black community, although the overwhelming majority of Afro-Americans are still distinguished by a strong sense of community because they are still in a worse position than whites, lagging behind them in terms of all important socioeconomic indicators.

There has been virtually no decrease in racial inequality since the 1960s, and there is still a large income gap. A report on "The State of Black America in 1988," prepared by another influential Afro-American organization, the National Urban League, says that the average income of non-white families is equivalent to only 57.6 percent of the income of white families, and because of present hiring practices the average wage of the former is 12.2 percent lower. The rate of unemployment among black Americans is almost 2.5 times as high as the indicator for whites and is 14.7 percent on the national level.

All of this arouses the discontent of black Americans and forces their leaders to fight more vigorously for the inclusion of their voters in political affairs. After all, the situation is still unsatisfactory in this respect: Elected offices held by blacks, for example, represent only 1 percent of the total number of such offices; in the U.S. Congress the black community does not have a single senator (and only 23 members of the black "caucus" in the House of Representatives); and in the 50 states there is not a single black governor. The rightward shift of the national political axis at the start of the Reagan Administration forced the leaders of the community to revise their tactics and seek more vigorous forms of political activity.

This kind of revision, which is intended to surmount the political dependence of black Americans on white liberals, is dictated primarily by the objective state of affairs in the Democratic Party, which has lost considerable influence and has experienced a shift to the center by representatives of its main currents and groups. There has even been some sociopolitical stratification in the black community itself, leading to the creation of a black "middle class," the leaders of which (including the once

famous radicals E. Cleaver, J. Bevel, and R. Abernathy) support Reaganism and the Republicans, without concealing the fact that their "black conservatism" is hostile to the interests of the overwhelming majority of black Americans.

In this situation, when Jackson entered the race in 1984 with his own program, he was expressing the wishes of black Americans to act more independently and to defend their own interests energetically. His statement, made on behalf of the black population, that "we could get along without the Democratic Party, but it could not get along without us," had broad repercussions in the 1984 campaign.

Jackson is in a much stronger position in this year's race. When the Democrats lost the 1984 election, the "old" liberals relinquished the Democratic Party leadership to the centrists, and Jackson effectively became the only candidate resolutely defending the interests of the black community and also of all the poor, the unemployed, and the labor unions. After revising his stance on domestic and foreign policy issues, he tried to attract members of the white "middle class" over to his side, and it was to them that he addressed his appeal for a multi-racial "rainbow coalition," the prototype of which was the organization of the same name he founded in April 1986.

This time the black presidential candidate is not only voicing protests, as he did in 1984, but is also appealing to all progressive voters, white and black, to surmount their mutual mistrust and, in line with the traditions of American populism, is assuring them that the interests of most Americans coincide: Whites and blacks, in his words, "have suffered from the structural changes in the world economy and have become the victims of the greed of corporations and a government incapable of protecting" its citizens from these evils.

Jackson's campaign rhetoric stresses the ideals of social justice. He insists on "humanizing the budget," expanding federal social programs, and transferring most of the tax burden to the rich. In contrast to most other Democratic candidates, who also are not excluding the possibility of a slight increase in taxes in order to reduce the federal budget deficit, he is stressing the need to collect much more from corporations and the rich. For example, he has suggested raising the maximum tax rate to 35-40 percent for corporations and to 38.5 percent for the income of the 400,000 richest Americans. Regarding these measures as a step toward the more just distribution of social wealth, Jackson feels that the main objectives in the social sphere are the improvement of public health care, education, and social security, the elimination of ghettos, the construction of affordable housing and hospitals, and the development of the public transport network. Advocating an increase in social spending, including aid to low-income strata, he proposes that these funds be obtained by reducing military spending by 4 percent and believes it will be necessary to reduce

allocations for military development projects and increase funds for programs for the development of medicine and vocational training.

Pension funds, which now total almost 2 trillion dollars, could serve, in Jackson's opinion, as an important source of funds for these programs. In his opinion, 10 percent of the total, protected by federal government guarantees, could be deposited in an investment bank which would then finance the construction of affordable housing, the operations of public transport, the creation of jobs, and other social undertakings.

Jackson's campaign program this year contained more slogans calculated to appeal to workers and other voters from the middle strata, members of labor unions, and farmers. Jackson insists that measures be taken against the arbitrary closure of enterprises and the mass layoffs resulting from the structural reorganization of the U.S. economy and wants corporations and the government, instead of the labor unions and the workers themselves, to pay most of the cost of the retraining of manpower and of unemployment compensation. His proposals that farms be saved by imposing a moratorium on foreclosures and by broader agricultural price supports have evoked an enthusiastic response from several influential farmers' organizations. He has proposed broader assistance to black farmers and the renegotiation of farm loans.

Jackson has a strong reputation as a fighter against social injustice and all forms of discrimination. He is demanding the stricter enforcement of laws on voting and civil rights and the amendment of the Constitution to guarantee women the same rights as men. He is a resolute opponent of cooperation with authoritarian regimes "friendly" to the United States and is demanding that the administration sever all ties with the racists in South Africa.

Jesse Jackson has consistently advocated broader dialogue in Soviet-American relations and the development of trade and cooperation and has underscored the need for the mutual consideration of the interests of both sides. He welcomes the changes in the USSR in recent years in connection with perestroika and the development of glasnost; he opposes the SDI program and supports the idea of complete nuclear disarmament and the treaty concluded in Washington on the elimination of intermediate- and shorter-range missiles. Remarking that this treaty would be a means of "breaking the ice of the cold war," he sees a real possibility of future interaction with the Soviet Union "in the hope of more substantial arms reductions."

Once again, the encouragement of members of the black community to register and vote is a matter of crucial importance in the 1988 campaign. When Jackson spoke at the last NAACP convention, where he was greeted with a standing ovation, he said that the successful attainment of goals would be connected with the

involvement of the 7 million non-registered voters among the 20 million eligible black voters in the campaign. "We can win if we do not lose faith in victory," he said, asking people to rally round his platform.

Jackson now has most of the leaders of the organizations of black Americans and prominent black politicians holding elected offices on his side. Whereas in 1984 Jackson was supported by only a few leftwing-liberal and radical black leaders (in particular, M. King, S. Chisholm, Congressmen R. Dellums and J. Conyers, Jr., and Mayor R. Hatcher of Gary, Indiana), in this campaign he is also being supported by people who backed W. Mondale 4 years ago: such veterans of the civil rights movement as NAACP Executive Director B. Hooks, National Urban League Chairman J. Jacob, the mayors of Atlanta (A. Young), Los Angeles (T. Bradley), Detroit (C. Young), and Birmingham (R. Arrington), and others.

After he became the acknowledged leader of the Democratic Party's left wing in this year's campaign, he won the support of B. Commoner, the head of the leftist-liberal Citizens Party; D. Cartwright, co-director of the influential SANE-Freeze peace organization; W. Winpisinger, chairman of the Association of Machinists and Aerospace Workers; K. Blaylock from the American Federation of Government Employees; Y. Pierce from the Communication Workers of America, and other prominent members of this wing. The unification of leftwing Democrats around J. Jackson was promoted by the position taken by their main group, the Democratic Socialists of America (DSA), an organization headed by socialist M. Harrington. Recent DSA resolutions announced support for his campaign. Jackson's views, they stressed, are close to the views of this organization in many respects, and he himself "is not a socialist but does express the views of workers on major economic issues."

Polls indicate that Jackson has broader voter support than in 1984. At that time most of his electorate was black, with whites representing less than 5 percent. Now the politician's demands for the restoration of social justice are appealing to broader strata—colored and Hispanic, low-income and middle-income.

"Super Tuesday" (8 March) put Jackson in second place among the candidates. Jesse Jackson's harsh criticism of the Reagan legacy appealed to many voters who were dissatisfied with the 8 years of Republican government and displeased with the positions of other Democratic candidates on the most acute economic and social problems. On "Super Tuesday" from 8 to 10 percent of the white voters, including 15 percent of those calling themselves liberals, voted for Jackson along with 90 percent of the black voters.

The primaries held in the industrial northeastern states before the end of March confirmed the profundity of his success: He came in second in Illinois, and he was the front runner in Michigan.

Jesse Jackson's victories, however, faced the Democratic Party with a difficult choice. On the one hand, its leaders now have to take account of the fact that the black politician, especially after his success in the standard-bearing white states (Alaska, Maine, Connecticut, and others), has become a national leader capable of attracting all liberal voters and members of different races and social groups. On the other hand, the party put its money on the Dukakis-Gore team and is now in a difficult position. If the Democrats oppose Jackson, they will take the risk of alienating those who supported him in the primaries; by the same token, his acknowledgement—at least as a possible vice-presidential nominee—could cause the party to lose the support of businessmen and conservative and moderate voters. What choice should they make?

The big press in the United States is not concealing its disbelief in a Jackson victory. The pro-Republican U.S. NEWS AND WORLD REPORT is full of skepticism: "There is no question that very few people believe Jackson could win the election, even if he should win the Democratic nomination—another possibility that seems dubious to almost everyone, even among his loyal fans. American democracy has come a long way since the first Catholic president was elected in 1960, but the possibility of a black minister, even one as charismatic as Jackson, in the White House appears to be a political idea whose time has not come."

It is obvious that the journal's main premise is correct: Wishes (for a black American as chief executive or at least as vice president) must not be confused with reality, and it is wrong to speak of this prematurely.... The importance of the success of Jackson's campaign must not, however, be minimized. It presages a change in the climate of post-Reagan America and the possibility of a new alignment of forces in national politics.

Footnotes

1. Senator A. Gore, Jr., is campaigning in 1988.

2. After their campaigns got off to an unsuccessful start, Babbitt and Gephardt announced that they were dropping out of the race.

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Debate Over SDI Continues

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[Article by S.M. Samuylov]

[Text] "For the last 4 years Congress has cut our SDI requests each year. Because of these cuts, the program is a year or two behind"—from R. Reagan's speech of 14 March 1988 on the fifth anniversary of the SDI program.

After the Soviet-American summit meeting in Washington, President Reagan made this statement in his next radio address to the nation on 12 December 1987: "Our fundamental line with regard to the SDI is simple: We will research it, we will test it, and when it is ready we will deploy it." Besides this, he suggested that during the talks at the summit meeting the Soviet side had withdrawn its demand for continued adherence to the 1972 ABM Treaty in its traditional interpretation as an essential condition for the negotiation of the 50-percent reduction in strategic offensive arms. At a press conference on 11 December 1987, for example, the President was asked whether the Soviet Union had withdrawn its objections to SDI tests conducted in line with the "broad" interpretation of the ABM Treaty and he said in effect that it had. "The fact is," the President said, "that we agreed to continue all necessary research and development, regardless of the different interpretations of the ABM Treaty. On the other hand, we also agreed that the two countries would continue observing the ABM Treaty for an agreed period of time, although this will not affect our tests."

The joint Soviet-American summit-level statement, however, unequivocally says: "With a view to the preparations for the treaty on strategic offensive arms, the leaders of the two countries also instructed their delegations in Geneva to hammer out an agreement which would obligate the sides to observe the ABM Treaty in the form in which it was signed in 1972 during the process of research, development and, if necessary, tests allowed by the ABM Treaty, and not to withdraw from the treaty during an agreed period of time."

In a speech on Soviet television on 14 December 1987, General Secretary of the CPSU Central Committee M.S. Gorbachev said: "We reaffirmed our willingness to reduce strategic offensive arms by 50 percent on the condition that the ABM Treaty be observed in the form in which it was signed in 1972. This is reflected in the joint statement on the results of the meeting."

A few days after the President's statement, the White House ate these words and announced that differences of opinion still existed between the United States and the USSR over the SDI. Why did the White House have to imply that the fundamental disagreements between the USSR and the United States over the SDI had been settled at the time of the Washington meeting? The answer seems to lie in the conflicts arising between the President and the Congress in connection with arms control.

A few words should be said about the events leading up to this. After 5 years of growth, colossal by peacetime standards, in the military budget, during which Congress supported White House policies in general, the disagreements between Congress—or, more precisely, the House of Representatives—and the President over arms control issues became much more acute, and this is attested to by the discussion of the draft military budget for fiscal year

1987 in the Congress. By that time the problem of huge budget deficits—an unavoidable result of "Reaganomics"—became so threatening in the sense of a possible financial crisis that Congress had to effectively put a freeze on the Pentagon budget. We should also recall that in August 1985 the Soviet Union unilaterally suspended all nuclear tests and asked the Reagan Administration to follow its example. The administration, however, not only failed to make positive responses to the repeated extension of the Soviet moratorium but also announced in May 1986 that the United States would no longer observe the terms of the SALT-I and SALT-II accords, representing the central component of the arms control mechanism.¹

In Congress, especially in the House of Representatives, which was controlled by the Democratic Party, the White House's actions were interpreted as overt right-wing extremism in a major sphere of foreign policy. The "amendment war" the House of Representatives started in August 1986 during tense debates over the draft military budget was intended to, among other things, preserve the existing framework of arms control between the USSR and the United States. It is indicative that the first House amendment, passed at a time when another extension of the Soviet moratorium was being considered, effectively envisaged cuts in funds for U.S. nuclear tests on the condition of the extension of the Soviet moratorium. As we know, the USSR extended its moratorium in August 1986. After the House had approved five amendments² intended to restrict rightwing extremism in the sphere of arms control perceptibly, the President censured the House angrily, saying that the "House defense bill is a senseless attack on the national security of the United States."

The second House amendment cut administration requests for SDI allocations for FY 1987 sharply, from 5.4 billion dollars to 3.1 billion. In the end, allocations were set at 3.5 billion. It is indicative that the final draft of the military budget contained provisions specifically urging the continued observance of the ABM Treaty and that these were clearly meant to spite the "hawks" in the administration. Section 216 of the defense budget for FY 1987, for example, says: "The fundamental goal of the United States in talks with the Soviet Union on nuclear and space arms should consist in correcting tendencies undermining the ABM Treaty." In reference to the allocation of funds by Congress for SDI research, the law says that this does not mean "that the United States should cancel, violate, or otherwise undermine this treaty or...that the United States will develop, test, and deploy strategic antimissile weapons prohibited by the treaty." Congress' position on SDI funding confirms the conclusions of D. Fascell, Democratic congressman from Florida and chairman of the House Committee on Foreign Affairs. His article in FOREIGN AFFAIRS in spring 1987 said that "although there was always majority support (in Congress—S.S.) for SDI research, most of the projects involving the development, testing, and deployment of SDI components or systems have never

been supported and are not supported now." The situation in Congress was the same in general when the draft military budget for FY 1988 was being debated in 1987.

When the draft military budget was being discussed in the House of Representatives in May 1987, White House requests for SDI funds were cut from 5.7 billion dollars to 3.1 billion. A demand for the strict observance of the traditional interpretation of the ABM Treaty was also approved.

The most tense debates took place in the Senate, where they sometimes gave rise to conflicts. Chairman S. Nunn (Democrat, Georgia) of the Senate Armed Services Committee conducted a special study of the hearings on the ratification of the ABM Treaty in 1972. Using this analysis as a basis, he pointedly criticized the administration's arguments in favor of the "broad" interpretation of the treaty. Nunn believed that any White House decision to transcend the boundaries of the traditional interpretation of the ABM Treaty during work on the SDI program should be approved by Congress. The bill on military expenditures for FY 1988, with the amendment introduced by Senators S. Nunn and C. Levin (Democrat, Michigan), was approved by the Senate Armed Services Committee in May 1987 by 12 votes; 8 Republicans voted against it.

The Levin-Nunn amendment says that "funds allocated or otherwise provided to the Department of Defense in fiscal years 1988 and 1989 may not be...spent on the development and testing of antimissile systems or their sea-, air-, space-, or mobile land-based components."³ Besides this, the amendment demanded the consent of both houses of Congress (in the form of a joint resolution) for any work on the SDI program that transcends the traditional interpretation of the ABM Treaty, but the amendment did not contain a demand for the observance of the treaty in its traditional interpretation. In spite of this, the President threatened to veto any defense budget draft containing this amendment. The amendment evoked particularly fierce attacks from the Senate right wing and "hawks." Using the tactic of the filibuster, or, to put it simply, of obstruction, they were able to block the passage of the military budget in the Senate for 4 months. With the aid of this tactic, the right wing obviously hoped to prevent, with the assistance of the White House, Senate approval of this amendment. It was not until September 1987, when the deadlines for the budget procedure were long overdue, that the Senate began discussing the bill on military expenditures.

The main arguments of the White House and the right-wingers against the Levin-Nunn amendment were expressed in great detail by S. Thurmond, the Republican senator from South Carolina: "In my opinion, this amendment will impose unilateral restrictions on the United States and will give the Russians a substantial concession at a crucial point in the Geneva arms control talks.... The Strategic Defense Initiative program brought the Russians back to the negotiating table.

Everyone agrees with this. We believe that the Levin-Nunn amendment...will deprive our representatives at the talks of much that they need to achieve agreements in the interest of our national security."⁴ Besides this, the right wing believed that the amendment represented impermissible congressional interference in the President's prerogative to conduct negotiations and conclude agreements with other countries.

The amendment does not, however, attempt to interpret the ABM Treaty or to interfere with the President's prerogative to negotiate and conclude agreements. It simply confirms Congress' constitutional right to "sanction and allocate funds for national defense."

The right wing and the "hawks" vigorously opposed the approval of the Levin-Nunn amendment. In particular, they introduced another amendment in the Senate which effectively gave the White House a "green light" to withdraw from the ABM Treaty. They repeated their earlier arguments: "At this crucial time, Congress should not take actions tantamount to unilateral concessions to the Soviet Union in the sphere of arms control.... Congress should not promote the interests of the Soviet Union by unilaterally accepting the Soviet demands rejected by the Government of the United States at the talks."⁵

The Senate, however, rejected the "hawks'" amendment by a vote of 59 to 35. To neutralize the attacks of rightwing leaders, the centrist forces constituting the majority in Congress proposed another amendment. It specifically expressed complete support for the President in the Geneva talks and warned that neither Congress nor the President should take actions representing unilateral concessions at the talks. The amendment was approved by 92 senators.

When the "hawks" try to suggest that the centrist majority in Congress is benefiting the Soviet Union by imposing various restrictions on the work on the SDI program, they usually conceal one important fact. Officially, the administration did not request any funds for SDI-related experiments transcending the boundaries of the traditional interpretation of the ABM Treaty for fiscal years 1988 or 1989. A quite definite statement to this effect was made in spring 1987 by General Abrahamson, the director of the SDI Organization, and Under Secretary of Defense R. Godwin in their testimony during hearings before the Senate Armed Services Committee. In other words, the Levin-Nunn amendment was no hindrance to the SDI.

Apparently, SDI-related research and development are now at a level⁶ at which the traditional interpretation of the ABM Treaty still cannot deter the implementation of the entire program. This was indirectly confirmed at the end of November 1987 when Pentagon spokesmen said that they did not plan to test one of the "exotic" weapon systems—the hydrogen-fluoride chemical laser—in space until the early 1990's. This kind of test would be in

direct violation of the ABM Treaty, but announced plans are not binding, and the next president of the United States will have the right to cancel them. Some experts feel skeptical about the very possibility of developing this kind of weapon. For example, J. Pike of the Federation of American Scientists described the laser model shown to President Reagan when he visited a Martin Marietta plant in Denver (Colorado) as a "Potemkin village."⁷

In general, experts believe that the intensity of this and other types of directed-energy weapons (the X-ray laser, the free-electron laser, and the excimer laser) is only a fraction of the power needed for the development of effective means of destruction in the ABM system. In other words, to a considerable extent the SDI is still what Congressman D. Fascell called "a hypothesis on a scrap of paper." Finally, the report of the Congressional Office of Technology Assessment which was the result of almost 2 years of study and was partially published in April 1988, says that "the feasibility of the attainment of SDI goals is still doubtful." In this way, close to the end of President Reagan's term in office, even the most zealous supporters of the SDI are realizing the groundlessness of the rightwing assertions about the considerable scientific and technological superiority of the United States that will make the quick development of a "defensive space shield" possible.

After all of the heated debates and the desperate attempts by the "hawks" to block the Levin-Nunn amendment, it nevertheless won Senate approval: 58 senators voted for it and 38 voted against it. After this the Senate approved the draft military budget containing this amendment. The President again threatened to veto it. In particular, he said that the Senate amendments, including the ones related to the SDI, "will undermine my efforts to achieve equal and verifiable arms reductions at the talks and will weaken national security."⁸

During October and November 1987 the White House and the congressional leaders conducted intensive consultations in search of a compromise. The market crash in the New York stock exchange in October intensified the pressure exerted on the White House and Congress by business and financial groups for the quick settlement of budget disagreements. A compromise was reached at the cost of the President's renunciation of his veto threat and Congress' consent to ease the wording in the bill demanding the unconditional observance of SALT-II limits and to confine the amendment on the SDI to fiscal year 1988. The White House's request for SDI funds for the current fiscal year was cut from 5.7 billion dollars to 3.9 billion. In the beginning of December the President approved the defense budget for FY 1988.

Some American foreign policy experts were quick to publicize the amendments in the defense budget with regard to the SDI as a great victory. Their line of reasoning was that the President's reluctance to give up the idea of the "broad" interpretation of the ABM

Treaty did not keep the Congress from effectively forcing him to observe the traditional interpretation of the treaty. This would virtually eliminate the main difference of opinion between the USSR and the United States at the Geneva talks on nuclear and space weapons and pave the way for the rapid conclusion of an agreement on the reduction of strategic offensive arms by 50 percent. They failed to mention just one important fact.

In reality, in 1987, in spite of the President's perceptible loss of political influence due to "Irangate" and in spite of the transfer of Senate control to the Democrats after the midterm elections of 1986, Congress agreed to some concessions that might even be called substantial in the matter of SDI funding. A comparison of the cited excerpts from the text of the defense budget for FY 1987 and the Levin-Nunn amendment indicates that the approved draft of the budget for FY 1988 does not contain the direct support for the ABM Treaty that was present in the previous fiscal year's budget. Besides this, the White House is allowed to plan SDI tests in line with the "broad" interpretation of the treaty, although the law contains detailed stipulations with regard to prohibited experiments. Finally, the effects of the amendment regarding the SDI are confined to the current fiscal year. Therefore, there is a clear tendency toward the gradual erosion of Congress' position in this sphere.

Nevertheless, the President seems to realize that he has no real chance of conducting tests transcending the bounds of the ABM Treaty. When the draft defense budget for the next fiscal year was being discussed at the end of April 1988, the House of Representatives again voted, 252 to 159, for the prohibition of all SDI-related tests transcending the bounds of the traditional interpretation of the ABM Treaty. The main reason is not the reduction of allocations, as the administration has asserted, but the substantial technical and technological difficulties entailed in the implementation of the SDI. The constant statements about the testing and deployment of the SDI resemble political bluffs more than anything else. They do, however, have a specific political purpose—repeated displays of firmness and intractability in relations with the Soviet Union. The most Reagan can hope for now is to loosen, if not eliminate, the congressional legislative fetters on the SDI for the next president. This was apparently the purpose of his personal interpretation of the agreement that was supposedly reached on the SDI at the time of the Washington summit meeting.

The conflicts described here between the White House and the Congress over SDI funds are related in some respects to the position of the USSR. Its negative attitude toward the SDI and its willingness to conclude an agreement on the radical reduction of strategic nuclear arsenals are reinforcing the legislators' efforts to keep the White House within the boundaries of the traditional interpretation of the ABM Treaty.

Footnotes

1. For a more detailed discussion, see SSHA: EKONOMIKA, POLITIKA, IDEOLOGIYA, 1986, No 11, pp 56-61.
2. For more about these House amendments and their subsequent fate, see SSHA: EKONOMIKA, POLITIKA, IDEOLOGIYA, 1986, No 11, pp 11-12; 1987, No 4, pp 73-76.
3. CONGRESSIONAL RECORD, 16 September 1987, p S-12146.
4. Ibid., 10 September 1987, p S-11941.
5. Ibid., 11 September 1987, p S-12012.
6. For a discussion of difficulties in the work on the SDI, see, for example, SSHA: EKONOMIKA, POLITIKA, IDEOLOGIYA, 1986, No 10, pp 66-69.
7. TIME, 7 December 1987, p 19.
8. THE WASHINGTON POST, 3 October 1987.

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Practical Application of Artificial Intelligence
18030011c Moscow SSHA: EKONOMIKA, POLITIKA, IDEOLOGIYA in Russian No 7, Jul 88 (signed to press 15 Jun 88) pp 87-92

[Article by O.M. Mirimskaya]

[Text] Researchers in a special field of information technology—artificial intelligence—are trying to develop technical programs reproducing some forms of human mental processes. The field came into being in the 1950's. The need to solve problems in the recognition of images, the synthesis of speech, and the coordination of movement in three-dimensional space and the rapid development of computers in recent years have made the work on artificial intelligence (AI) systems one of the main areas of scientific research today. The efforts of specialists in various fields are now being concentrated in this area—mathematicians, programmers, linguists, psychologists, and electronic engineers.

The analysis of the possible commercial use of AI and its effects on economic development has produced volumes of literatures in the United States in recent years. The authors of books often express diametrically opposed points of view on the effects of these systems on production, social, and economic processes, but they agree on the main thing—that AI is one of the greatest achievements of modern scientific thinking, representing new frontiers in the progress of data processing equipment and computer technology.

In particular, this opinion was apparent in all of the statements made by speakers at the first conference in the United States on the commercial uses of artificial intelligence, organized by an extremely authoritative research center in this field—the Artificial Intelligence Laboratory of the Massachusetts Institute of Technology. The conference papers were published in a work entitled "The Commercial Uses of Artificial Intelligence," edited by P. Winston and K. Prendergast.¹

They say that the prerequisites for the heightened interest in AI took shape over many years of development in computers and software. An important recent development is a special category of AI—the computerized expert systems (ES) used for consultation in the most diverse spheres of human endeavor and for assistance in decision making.

The overwhelming majority of computer systems today process data presented in the form of highly structured sets of digital codes. In contrast to these, AI systems process knowledge, presented in the form of a series of closely related facts representing various situations and using a knowledge base similar in structure to the total knowledge of a human expert in a specific field.

The very term "knowledge processing" was known to only a few experts just recently, but there is already a need in the United States to inform the users of computers, especially the business community, how knowledge-processing technology can lead to the more effective use of data processing equipment. This was the purpose of the book "Artificial Intelligence: How Machines Think."² Its author, David Peat, a well-known publicist of achievements in data processing, says that the operation and, consequently, the value of computers of the traditional type always depended completely on man-made programs and on the form in which the data to be processed was presented.

The AI system is not only capable of "communicating" with the user in a language close to natural speech but also does not need to receive an operating program from a human to attain certain goals. This would make AI irreplaceable in flexible automated production units and complex man-machine systems. The first expert systems were developed in the 1970s to facilitate human communication with the computer and to secure the possibility of more arbitrary input. The ES project gradually grew into the development of a computer capable of "understanding" the human user's commands and responding to them correctly even in an unfamiliar situation.

Peat writes that the ES programmers modeled their system on the behavior of a human expert giving advice or making decisions based on his own experience (p 88). This was an attempt to depart from the prevailing "data-processing" methods. The move to "knowledge processing," however, is a difficult matter and could take

several decades. Nevertheless, the use of AI, especially expert systems, could be of tremendous benefit to mankind even within the next 8 or 10 years.

The initiators of the Japanese project for the fifth-generation computer publicly announced their intention to derive these benefits first. This project aroused great interest in the United States, the recognized leader in the capitalist world in the elaboration of the theoretical basis of AI. A book by E. Feigenbaum, one of the ideologists of the American progress in AI, and P. McCorduck, a journalist, "The Fifth Generation. Artificial Intelligence and Japan's Computer Challenge to the World,"³ urged the U.S. Government and American industry not to allow their country to lose its leading position in this field.

Using the ideas of the "computer revolution" and the "information society" as their basis, the authors construct whole socioeconomic theories about the ramifications of the use of AI in production and management. They believe that the United States will usher in a new era in information processing and, consequently, in the development of all means of production. By the end of the 20th century, in the opinion of Feigenbaum and McCorduck, all social production will depend on the production of information, and human knowledge will be the most valuable capital. For this reason, superiority in knowledge-processing technology would mean absolute leadership in all spheres of physical and spiritual production.

Predicting the global socioeconomic consequences of new revolutionary technology is an extremely popular pursuit in the American academic community, but the assessment of these predictions requires great care. In the initial stages of the development of artificial intelligence, the possible commercial uses of AI were being investigated in all spheres of social life, and the most successful use of artificial intelligence at this time is connected with the development of ES, which are being employed quite productively in areas where it is difficult to apply a reliable formalized theory and where years of collective experience serve as the most reliable guide. Specialists in various fields of knowledge and professional programmers have already created many ES for physicians, geologists, designers, and the military.

The previously mentioned MIT anthology contains the opinions of representatives of the most diverse spheres of science and business, whose professional interests are closely bound up with the development of AI and with its use in the economy. They include representatives of the computer industry, the developers of artificial intelligence systems from American universities (including Professor Mervin Minsky, a well-known expert in the field), and the creators of expert systems for giant oil and electrical equipment corporations. The introductory report by Professor Patrick Winston, head of the MIT

Artificial Intelligence Laboratory, notes the colossal increase in the number of people working on AI in numerous organizations, which can be divided into four main groups (p 9):

Government laboratories conducting military research and Defense Department contractors;

The top corporations in the data processing and computer industry (IBM, DEC, Xerox, and others);

Small independent software firms using the LISP and PROLOG programming languages;

Large companies in various branches of industry which have created expert systems with elements of artificial intelligence for their own production needs.

Feigenbaum and McCorduck use similar categories to describe American designers of intelligent computers. The development and experimental production of AI systems require large capital investments, and by the middle of the 1980s virtually all of the laboratories and research centers working on these projects were funded by the government or private firms or were departments of large corporations. The number of organizations funded by the Pentagon is particularly high (p 256). They include the three largest NASA space research centers, four military science institutes, six robot engineering laboratories, and around sixty university research teams, including departments at Stanford, Carnegie-Mellon, and Texas universities. They also include special subdivisions of the main corporate contractors of NASA and the U.S. Air Force—McDonnell Douglas, Lockheed, Martin Marietta, Boeing, and others. Many experts in the United States believe that orders for military AI systems will increase tenfold by 1992 and will amount to 10-15 billion dollars (p 258). The plans to equip military hardware with these systems stem from two important properties of artificial intelligence: the self-teaching capacity and the ability to mimic human decisionmaking processes in emergency situations.

In connection with this, Feigenbaum and McCorduck say that the overwhelming majority of modern military computers are not self-teaching systems—i.e., changes in the nature of the information they process (for example, the use of absolutely new combat equipment by the adversary) usually necessitate their reprogramming (p 257). This makes traditional systems too unreliable and expensive. The self-teaching capacity of artificial intelligence will make it possible to create systems making tactical decisions based on heuristics, and not on algorithms.

The simulation of decisionmaking processes in AI will secure the possibility of enhancing the effectiveness of armed combat considerably by eliminating the effects of the physical or mental flaws of commanders. The authors feel that the only way of avoiding the errors and

accidents caused by the slow reflexes, stress, or fatigue of operators of missile, aircraft, or other complex military systems is the partial or complete replacement of the human with AI.

In the section of the book dealing specifically with the military uses of AI in the United States, Feigenbaum and McCorduck assess the 5-year Defense Department program of applied R&D for the development of weapons systems controlled by artificial intelligence. This is one of the projects of the Defense Advanced Research Projects Agency (DARPA), which has included it in the "Strategic Computer Initiative" (SCI) plan—a sweeping program for the development of the computers of the future.⁴ According to the authors, the applied research has already produced some practical results, although they should be regarded primarily as an indication of the general capabilities of the new generation of weapons systems. The use of the research findings of private, government, and university laboratories should lead to the development of a new generation of computers for military purposes. The same purposes will be served by the SCI-related development projects for the high-performance computers, new computer element base, and parallel processing methods needed for the "Star Wars" program.

DARPA received more than 600 million dollars from the U.S. Congress for the development of intelligent computers during the first 5 years of the work on the SCI beginning in 1984 (p 275). This is close to half of the entire sum the Americans plan to spend on R&D in the artificial intelligence sphere by the end of this decade.

The high percentage of military allocations for AI is due to the Pentagon's hope of putting the scientific centers conducting research into artificial intelligence under its own control and classifying their research findings. Many corporations in different branches of industry which wanted to begin using these findings to develop their own AI systems have been unable to gain access to them. This has also aroused dissatisfaction in the academic community, where people are afraid that the emphasis on military R&D could cause American science to lag behind its Japanese competitors, who are now working on their own program for a fifth-generation computer.

People in the United States did not take the Japanese experiments seriously enough until recently, and this had an adverse effect on American science. The common opinion was that Japanese firms would continue copying American computer developments for at least another 10 years and could not put up any serious competition.

The project announced in 1982 by the Japanese Government for a fifth-generation computer provided considerable momentum for the acceleration of research in the United States, the authors of "The Commercial Uses of Artificial Intelligence" state. Without waiting for the leaders of the computer industry to step up their R&D,

several small firms began working on the new technology. Specialists from MIT and industry regard LISP (list processing language) as the nucleus of this technology because it does not require information to be highly structured. It was precisely the use of this language that made it possible to consider the processing of not data, but "knowledge"—i.e., information in the form in which it might be presented in the human mind. By producing a few varieties of specialized LISP computers, the small firms effectively created an absolutely new sector of the market. The ability of the capitalist market for state-of-the-art products to grow by leaps and bounds played its positive role here, and the AI sales volume in the United States was already 100 million dollars in 1984, five times the size of the previous year's volume (p 207). In 1985 the number of LISP computers in the United States rose to almost 1,500, 70 percent of which were being used in industry. The possibilities of the new market attracted the attention of the industry giants—IBM, DEC, Texas Instruments, Data General, and other firms whose processors served as the technical base for the development of the LISP computers.

It must be said that the choice of a programming language for AI was influenced by political considerations as well as technical factors. Japanese firms tried to put an end to their dependence on American computer technology by using another language in their AI systems, PROLOG, following the example of France, Great Britain, and the FRG, which were also striving to guard their market against penetration by a new generation of American computers. This clearly reveals the tendency toward more intense competition among the leading capitalist countries. In line with the usual patterns of this competition, the technical innovation which was born in the laboratories of small firms attracted the interest of giant monopolies, and now that these have divided up the domestic market they will have inevitable encounters with foreign competitors in the foreign market.

The report by James Wecker, who heads the computer center of the Schlumberger Corporation, stresses that the intensity of the struggle for leadership in the development of AI systems is due to the tremendous importance of knowledge-processing technology to the future development of all branches of industry, and not only the computer industry. The demand for AI systems, which economists estimate at over 2.5 billion dollars in 1987 in the United States, was created primarily by large and medium-sized companies in high technology industries. There is an urgent need for expert systems in the work of designing new computer chips, aerospace equipment, electronic instruments, and other technically complex items. These systems could facilitate the work of engineers, accelerate R&D, and improve product quality. In the atmosphere of fierce competition, more and more American companies in the most diverse spheres of business have begun working on their own AI systems. The Schlumberger company's intelligent Deepmatter Adviser ES is already being used successfully in the

planning of oil drilling and mineral prospecting operations. The geological Prospector ES also became famous when it aided in the discovery of a molybdenum deposit valued at over 100 million dollars (p 315).

"The Commercial Uses of Artificial Intelligence" also contains an analysis of the application of AI in robot engineering by the head of the microelectronic research center of the General Electric corporation, Paul Rasso. This prominent expert in the field of microelectronics believes that as robots are perfected and become independent elements of completely automated enterprises, the importance of AI in the enhancement of labor productivity and product quality will increase immeasurably. In his opinion, General Electric and other firms wishing to survive the struggle with Japanese competitors should concentrate on the new generation of intelligent robots. The market for these robots is just taking shape. The American firms producing "intelligent" software for domestic needs already constitute a large group. In particular, Rasso says that 200 of the 500 top U.S. industrial corporations have already allocated funds for these purposes or have created AI departments in their research subdivisions (p 226).

Attempts to predict changes in the course of social development under the influence of knowledge-processing technology are characteristic of many American authors, including the authors of the books discussed here. Far from all of these ideas stem only from their desire to advance an "original" theory of the future capitalist society or simply to fantasize about a trendy topic. For many researchers the deliberate exaggeration of the implications of AI is a method of directing attention to this problem. For example, in the book "Into the Heart of the Mind. An American Quest for Artificial Intelligence,"⁵ Frank Rose asks pointed questions about the social consequences of the use of artificial intelligence and "intelligent" robots. In his opinion, this new phase of the "computer revolution" will have much more serious ramifications than all of the earlier progress of productive forces as a result of the automation of production and the incorporation of "traditional" computers in all spheres of social life. For example, whereas the automation of production and data processing tends to eliminate mainly jobs requiring unskilled labor, the use of AI could cause colossal numbers of highly qualified employees and even members of creative professions to lose their jobs.

This prospect worries many American scientists. The reduction of employment as a result of the widespread use of AI in robot engineering, the processing and transmission of information, and project planning and design operations seems quite possible today. Millions of people will have to find jobs in the service sphere or undergo retraining to learn to work with the "intelligent" computers, and frequently as support personnel. Many people will experience tremendous psychological stress when they are replaced by robots or expert systems. The author of the book does not suggest any way of avoiding

a situation that could cause genuine upheavals in the future. Of course, the situation described in the books by Rose and by Feigenbaum and McCorduck is exaggerated in many respects and is essentially the product of the simple extrapolation of current trends. This does not mean, however, that the "computer revolution" connected with the use of AI will not cause socioeconomic and psychological damage.

Footnotes

1. "The AI Business. The Commercial Uses of Artificial Intelligence," edited by P. Winston and K. Prendergast, Cambridge (Mass.), 1984.
2. D. Peat, "Artificial Intelligence: How Machines Think," New York, 1985.
3. E. Feigenbaum and P. McCorduck, "The Fifth Generation. Artificial Intelligence and Japan's Computer Challenge to the World," New York, 1984.
4. See, for example, SSHA: EKONOMIKA, POLITIKA, IDEOLOGIYA, 1986, No 9, p 112.
5. F. Rose, "Into the Heart of the Mind. An American Quest for Artificial Intelligence," New York, 1985.

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Bush, Dukakis, Jackson Profiles

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[Article by I.O. Karaganova: "Main Contenders for the Presidency"]

[Text]

George Bush

According to the results of the primary elections, Vice-President George Bush is now virtually the only possible Republican candidate for the presidency. He is much better known to the voters and has a much larger campaign fund (around 20 million dollars) than his rivals and he has the additional advantage of many years of experience working in high-level government positions.

George Bush was born in Massachusetts in 1924. His wealthy family was not only part of the social elite but was also one of the old families personifying the political and commercial influence of the Eastern Establishment. His father, a partner in the well-known New York banking firm, Brown Bros, Harriman and Co., represented the Republicans of the state of Connecticut in the U.S. Senate from 1953 to 1963. His mother came from

another family of bankers, the Walkers. His wife, whose maiden name is Pierce, is the daughter of the former president of the large McCall's publishing firm.

The facts of G. Bush's life fit ideally into the framework of the model American political career. In World War II he was a decorated pilot in the Navy Air Corps, then he was a student with a spotless record at Yale, one of the most prestigious universities, then a successful oil industrialist, and finally an influential politician....

He began his career in business at the end of the 1940s in the sales department of Dresser Industries, an oil company (his father was a member of the board), and later he founded his own drilling company, the Zapata Petroleum Corporation, in 1953, and the Zapata Offshore Company for offshore drilling a year later. In the middle of the 1960s he was already drilling for oil on five continents, augmenting the fortune he had inherited, and acquiring business contacts.

Bush began his political career representing the interests of the oil industry. In 1959 his company was based in Houston (Texas), in the city local businessmen refer to boastfully as "the oil capital of the world." He then established ties with the local Republican Party organization, using his senator father's extensive contacts in the capital. In 1964 Bush ran for the Senate himself, but he lost the race. With considerable financial and organizational support from the southern business community, he was able to rebound and to win a seat in the House of Representatives of the U.S. Congress in 1966.

He kept his seat in the Capitol from 1967 to 1971 and was then a member of the Nixon Administration, representing the United States in the United Nations (1971-1973) and heading the Republican Party National Committee in 1973 and 1974.

Bush owes his initial advancement largely to the patronage of Richard Nixon, who noticed and appreciated Bush's loyalty to the administration (the congressman voted for all of the main initiatives submitted personally by Nixon). Nixon also nominated Bush for the position of Republican National Committee chairman at the time of the Watergate crisis. This scandal was not an easy matter to deal with, but Bush managed to remain formally loyal to the White House while working in close contact with the Republicans who wanted the President to resign.

It was at this time that Bush formed a close relationship with G. Ford. When Bush was appointed the head of the U.S. liaison office in Beijing in 1974, he concentrated on the establishment of American-Chinese trade relations. He pursued the policy of rapprochement with China and the use of the "special" American-Chinese relationship to strengthen U.S. influence in Asia. Bush assisted in the penetration of China by the Texas oil business (in the

second half of the 1970s, after he had left the government, he visited China several times with American business delegations and was always welcome there).

In November 1975 Bush was recalled from China and was appointed (at the beginning of the next year) director of the CIA in place of W. Colby. The covert CIA operations abroad which had been revealed during the investigation of the Watergate scandal occupied a prominent place in the new director's activity. He improved relations with Congress by making an attempt to limit these operations severely and by carrying out a cosmetic reorganization of the agency. While he was "saving face" for the White House in this time of crisis, Bush again displayed competence, self-confidence, and the necessary resourcefulness and ability to compromise. This put the finishing touches on his political reputation, and he became part of what American political scientists term the "gold reserves of the political elite."

In May 1979 Bush announced his candidacy for the Republican Party presidential nomination in 1980. During the campaign he was much less popular than R. Reagan, but he trailed him only slightly and was regarded as the leader of the influential traditional wing (the same Eastern Establishment) of the Republican Party. In general, he has always been inclined to be moderate and to lean toward the "old guard." As Reagan's most persistent opponent, he criticized the rightwing conservative views and adventurous proposals of his rival quite pointedly several times. In particular, he called Reagan's famous plan of tax cuts "voodoo economics."

After losing the primaries, however, Bush joined the Reagan camp. In the hope of forming a good relationship with the centrist party forces backing Bush, Reagan chose him as his running mate. They then ran on the same ticket for a second term in 1984 and won again.

From his first days in the White House, Bush has been unconditionally loyal to the President, has stayed in the background, and has avoided making indiscreet statements. The chief executive appreciated these qualities. Bush received a number of appointments in addition to his main duties. He heads the crisis management group and frequently travels to various places in the world, representing the President and seeking the support of leaders of other states for Reagan's policies.

Bush's present campaign strategy consists in resolutely supporting White House foreign policy and economic performance while definitely dissociating himself from the administration in secondary matters with potential campaign advantages (these are his sympathy for the indigent, his speeches in defense of the need for educational reform in the most advanced fields of science and technology, his promises of greater benefits for senior citizens, etc.).

Bush has always enjoyed the support of the Republican political elite. According to observers, he has a good working relationship with such influential members of the administration as Secretary of State G. Shultz, Secretary of Defense F. Carlucci, White House Chief of Staff H. Baker, Secretary of the Treasury J. Baker.... Besides this, he took part in drafting the INF Treaty, and during the campaign he was the first Republican candidate to immediately express unconditional support for the treaty and oppose any kind of amendments to the treaty.

It is significant that the incumbent vice president is always in a convenient position in election campaigns: He has the support of the party in power and also benefits from the feelings of some voters who are afraid of endowing a "raw" and inexperienced politician with power. This part of the electorate, which is always sizable, always gives preference to a politician who will secure the continuity of government policies.

Bush also has some campaign disadvantages, however. Newsmen feel that he cannot make effective and convincing statements on television and is frequently inferior to his Democratic rivals in this respect. He is still haunted by the specter of the Iranagate scandal; currently unknown facts could be printed in the press at any moment.¹ Finally, his fate, in contrast to that of other candidates, will depend largely on the potential successes and failures of the Reagan Administration in the months remaining before the election.

Michael Dukakis

Governor M. Dukakis of the state of Massachusetts was not known widely on the level of national politics until recently.

He was born in 1933 in Massachusetts, in Brookline, an affluent suburb of Boston, into a family of Greek immigrants. After coming to the United States, his father managed to climb from the status of a common laborer to that of a high-paid physician. Observers have noted that this is the first time a Greek and a Greek Orthodox has been a serious contender for the presidency. At the beginning of June, voter preference polls indicated 40 percent support for Bush and 52 percent for Dukakis.

Dukakis was awarded a law degree from Harvard (in 1960) and began practicing law in the Heald and Barlow firm in Boston 2 years later.

His political career dates back to his student years, when he was a member of Democratic Party campus organizations and was active in local campaigns. From 1959 to 1961 he was one of the leaders of the reformist movement among the Brookline Democrats who were fighting against corruption in Boston politics. This movement put him in the state legislature in 1962. After 8 years as a legislator he became known as a vigorous defender of consumer rights and an advocate of better public transportation and environmental protection.

In 1970 he made an unsuccessful bid for the lieutenant governorship, but he was not discouraged and he immediately began laying the groundwork for a gubernatorial campaign. At that time Dukakis' vigorous activity as the head of a Nader-type² organization he had founded (to oversee the operations of state government agencies) and his regular television appearances as the host of a popular discussion program did much to enhance his prestige in the state and beyond its confines.

By the beginning of the 1970s he was already being viewed as a rising political star of the northeastern Democrats. He was supported by the liberal wing of this party in Massachusetts; he recruited veterans of the campus peace movement of the 1960s and of the 1972 McGovern campaign.

In the 1974 campaign Dukakis put the finishing touches on his political image as a politician of the new generation, transcending traditional liberal and conservative stereotypes, assigning the highest priority to independent thinking, competence, integrity, and even asceticism, and challenging the earlier tyranny of political bosses, nepotism, and extravagance. He was supported by the peace movement in the northeastern states. Dukakis won a decisive victory over the incumbent governor, liberal Republican F. Sargent.

The pragmatic and technocratic features of his policy were distinct even in the first days of his term as governor. He tried to depart from the tradition of concentrating on specific social groups and to act in the interests of "society at large," of all consumers, and to establish effective and competent government. In this sense, he had much in common with then Governor of California E. Brown. His policies were also close to the campaign platform of future President J. Carter. Dukakis headed the subcommittee drafting the Democratic Party platform for the 1976 party convention.

Because of Massachusetts' serious economic difficulties at that time, however, Dukakis had to raise taxes and cut social spending, and this aroused the indignation of many people and weakened his position among liberal politicians in the state. In addition, his liberal stance on the legalization of abortions and his efforts to abolish the death penalty simultaneously complicated his relations with the predominantly Catholic population of the state, with its strong feelings against these measures. As a result, he lost his bid for re-election in 1978.

At the end of the 1970s Dukakis practiced law for a short time and then joined E. Kennedy's presidential campaign in 1980, serving as one of Kennedy's closest advisers. Dukakis established broader contacts in the political community and found that northeastern businessmen were willing to give him the support he needed.

In 1982 Dukakis was able to recover the office of state governor. He was supported by a broad coalition of workers, educators, members of labor unions, and activists in democratic movements.

During the primary elections in 1984 he favored Senator G. Hart, although he did not support him openly. Many of the governor's aides and former campaign volunteers campaigned for Hart. After a thorough analysis of the strong and weak points of Hart's campaign, Dukakis decided that he "had a chance of winning the presidential race in 1988" himself. Few people took his statements seriously in the beginning, but the governor started working toward this goal with confidence.

Dukakis' present campaign revolves around the so-called "Massachusetts miracle"—the experiments he conducted for the purpose of mobilizing funds for the stepped-up industrial development of the state; their success won him another term as governor in 1986.

This is what he did. To stimulate private capital investment in weak sectors of the economy, Dukakis and his aides established "quasi-governmental" loan institutions offering cheap credit. For example, a Massachusetts capital investment underwriting company with assets of 100 million dollars extends loans to construction companies willing to risk capital for the development of depressed neighborhoods. Furthermore, this politician assigned priority to urban development. The governor personally promoted vocational training and employment programs; with the aid of these, around 40,000 welfare recipients found jobs, and this reduced the number of unemployed by 4.4 percent and saved the state more than 100 million dollars. Changes in the tax collection system substantially increased the positive balance in the state budget last year. Today Dukakis is publicizing his plans to establish a similar program on the federal level, which could, in his words, give the U.S. Department of the Treasury up to 110 billion dollars. Although many tax experts are disputing these claims and although Dukakis' rivals are asserting that he did not play such a great role in the reorientation of the regional economy for the development of high technology industries, he is now seen by a high percentage of voters as the man who "saved his state."

The foreign policy aspects of the governor's campaign platform seem more vague. Because of his lack of experience in the sphere of military and foreign policy, he is now trying to make only non-specific and sometimes absolutely nebulous statements within the framework of the moderate-centrist Democratic Party line. As for Soviet-American relations, Dukakis has repeatedly advocated—but also in the most general terms—the continuation of the development of contacts with the USSR and the lowering of the level of East-West military confrontation.

Dukakis' strength stems less from an integral and comprehensive platform than from his campaigning skills. He was able to raise an impressive amount of money (around 10 million dollars), far surpassing the campaign funds of all of his Democratic rivals. He has established a diversified network of campaign headquarters in almost all of the states. In terms of technical equipment and computers, his campaign is superior to all others in the Democratic camp. His ability to campaign on this level is a result of the generous donations and trust of the business community, especially in the northeastern states, and contributions of thousands of dollars from Greek, Armenian, and Jewish organizations (the candidate is connected with the latter through his wife).

The backbone of his closest political advisers consists of a small group of young, educated, highly professional, talented, and energetic politicians representing the "neo-liberal" wing of the Democratic Party. They hope to accompany Dukakis to Washington if he should win in November.

Jesse Jackson

People in Washington are calling the success of black minister J. Jackson³ "the most newsworthy event of the primaries." To the surprise of many, he was able to gather almost as many votes as M. Dukakis, who is still the front runner in the Democratic camp.

Jesse Jackson was born in Greenville, South Carolina, in 1941. His parents were not married, and he was raised by a stepfather who worked as a doorman. His mother had a low-paying job in a local hospital. At the age of 6 he began working in his grandfather's small lumber sales office. He graduated from North Carolina Agricultural and Technical State University in 1964 and from a theological seminary in Chicago in 1968 and then was ordained a minister.

Jackson entered politics at the beginning of the 1960s as an activist in the civil rights struggle and one of Martin Luther King's closest associates. In 1966 he headed Operation Breadbasket and remained its national director until 1971 (under the auspices of King's Southern Christian Leadership Conference). This was a campaign for a boycott of employers discriminating against black Americans; as a result of public demonstrations, Chicago businessmen had to make concessions in the employment of blacks and in working with black-owned firms.

In a photograph which has gone down in history, taken on the balcony of the Lorraine Motel in Memphis just before the assassination of M.L. King, King is standing with two of his closest associates—Ralph Abernathy and Jesse Jackson.

After King's tragic death, Jackson became one of the most popular leaders of the civil rights movement, but differences of opinion among the leaders of the black movement forced Jackson to leave this organization. In

1971 he founded PUSH (People United To Save Humanity), a Chicago-based organization with the goal of "establishing a strong economic foundation for the black population to preserve the rights it gained as a result of the mass struggle of the 1960s." Jackson had strong ties with the leaders and the rank-and-file of the automobile workers' and steelworkers' unions, the Federation of State, County, and Municipal Employees, and the meat cutters' union. He worked with many democratic organizations of ethnic minorities, the unemployed, and the poor, took part in the work of various democratic coalitions, initiated several mass movements by American labor, and became one of the recognized ideologists of the black Americans' movement in the middle of the 1970s. Jackson has pointedly criticized the domestic and foreign policies of Republican and Democratic administrations, and he was the one who coined the memorable phrase: "Carter gave the blacks a black eye."

Jackson's announcement of his candidacy for the Democratic Party presidential nomination in 1984 clearly demonstrated the growing political role of black Americans. He was able to formulate a convincing left-wing-liberal alternative to Reagan Administration policies and proposed a consistent program for the reordering of budget priorities (with sharp cuts in military spending and the use of these funds for the creation of new jobs, the financing of social assistance programs, and the development of public education and health care) and the pursuit of a peaceful policy. The questions Jackson raised and the mass support he won became an important factor which had to be taken into account by the Democratic Party. Jackson's campaign forced the Democrats to make certain adjustments in their campaign platform and define their position on several political issues more precisely. With his assistance, some of these proposals (non-intervention in the affairs of Central American countries and a freeze on the military budget) became the subject of nationwide discussion during the campaign. In the years following the 1984 elections, Jackson continued to exert constant "pressure from the left" on the Democratic Party.

Jackson's views and his place in the political spectrum within the party subsequently underwent some changes. He had to take account of the public opinion polls indicating that by January 1987 Jackson had lost from 20 to 25 percent of the support of middle-class blacks and almost all of the white votes he had won in 1984. For this reason, he decided to change his tactics in the beginning of 1987 and began what journalists described as "the populist registration of complaints in the spirit of the early Carter years." To attract two new groups—the farmers and the oilmen experiencing a crisis—to his Rainbow Coalition, which had united his supporters throughout the country since 1984, the black politician went to more than 50 cities and towns in the heartland, spending more than a million dollars and announcing the formation of his campaign committee in Iowa—and not just anyplace in Iowa, but in a small community

populated only by farmers, most of them white. He also spent a great deal of time making campaign speeches to oilworkers and the striking workers from the Hormel company.

These and other tactical moves inevitably pushed Jackson to the center of the political spectrum, nullified his unique qualities, softened the radical tone of his statements, and caused him to lose his advantage over several other Democratic candidates, although there is no question that they also augmented the group of his potential supporters among non-white Americans. It was not an easy choice....

Realizing the danger of "losing his image," Jackson decided to reaffirm the ideological aims of his platform in May 1987. He declared his intention to go further than others in defending workers against the closure of enterprises and the loss of jobs and in curbing the "merger maniacs" in corporate America. With redoubled strength, he threw himself into the campaign announced in fall and winter 1986 against the "unfair under-representation" of ethnic minorities in the news media, especially the CBS company, and made a number of ostentatious moves to convince people of his self-assurance. For example, the popular American black minister and public leader is now walking a tightrope in his second presidential campaign, trying to keep his balance between the immutability of principles and the need to use new methods of gaining votes.

As for the foreign policy aspects of his campaign, he is still, just as in 1984, and in contrast to all other candidates, supporting the right of the Palestinians to establish their own state, objecting vehemently to the White House's expansion abroad, and declaring his support for such states as Cuba, Nicaragua, and Syria. He is not afraid of arousing the anger of black traditional liberals and publicly expressed solidarity with F. Castro twice in 1987 and called Ronald Reagan a "terrorist" on the anniversary of the bombing of Lebanon....

According to American advocates of peace, Jesse Jackson is now "the candidate with the strongest commitment to the cause of peace."

Footnotes

1. For example, last spring the American press reported that, according to Saudi billionaire A. Khashoggi, the vice president had supposedly been directly involved in the collection of funds for the Nicaraguan contras in spite of the congressional ban, and that there is documented evidence of this. Any of Bush's rivals with compromising information at their disposal could set the "time bomb" to go off at the most inconvenient time for him....

2. Ralph Nader is the leader of the mass movement in defense of American consumer rights. For more about him, see *SSHA: EKONOMIKA, POLITIKA, IDEOLOGIYA*, 1975, No 12.

3. See A.N. Darchiyev's article "The Jesse Jackson Phenomenon in the 1988 Campaign" in this issue—Ed.

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Discussion of Alternative Defense

52001083e Moscow *SSHA: EKONOMIKA, POLITIKA, IDEOLOGIYA* in Russian No 7, Jul 88 (signed to press 15 Jun 88) pp 109-115—FOR OFFICIAL USE ONLY

[Article by A.A. Kalinin and A.Yu. Kosmarov: "Alternative Defense: Its Essence and Varieties"]

[Text] At the beginning of the 1980's members of the peace movement in the West and researchers associated with this movement made a number of proposals regarding the radical revision of U.S. and NATO politico-military strategy. These proposals reflect the non-acceptance of weapons of mass destruction and the desire of the public to live in peace and to halt the arms race. They also reflect the need most Americans and West Europeans feel for defense and their shaken but still existent belief in military means of safeguarding security.

The proposals drawn up in Western Europe and the United States have been termed "defensive," "non-provocative," "pure," and even "preventive" defense and represent the different but not contradictory ideas known collectively as alternative defense. Ideas about alternative defense have been taking shape for a long time. Some of its elements (for example, the proposals on "qualitative disarmament"¹ and the renunciation or substantial reduction of purely offensive arms) were already being discussed in the 1920's and 1930's.

In the 1950's West German military experts analyzed the experience of World War II, trends in the development of military equipment, the probable tactical and strategic implications of this development, and the thesis regarding the defensive nature of NATO and then proposed the organization of so-called "territorial defense" (or, "defense in depth"). These proposals envisaged the establishment of a network of support points covering all of the territory of the FRG, with more dense support in areas of probable attack. An adversary encountering this kind of defense would sooner or later get caught in this net and would have to fight a protracted and exorbitant war.

The idea of "territorial defense" was rejected by ruling circles in the NATO countries as an unrealistic concept. The idea was then revived in the 1970's, when West European doubts about the reliability of American

nuclear guarantees grew stronger and when there was a clear tendency toward the rapid development of new generations of weapons at a dramatically rising cost. This was accompanied by the broad-scale deployment of highly accurate tactical anti-tank and anti-aircraft guided missiles, the combat effectiveness of which had been confirmed during the Arab-Israeli war of 1973 and had been enhanced considerably since that time.

In the middle of the 1970's G. Brossollet (France), a group of experts headed by H. Afheldt (FRG), and A. Roberts (Great Britain) proposed essentially identical plans. It was assumed that in the event of an invasion by small and autonomous groups of "techno-commandos" armed with rifles and with tactical anti-tank and anti-aircraft missiles, the ensuing continuous battles would destroy much of the technical equipment of the attacking forces, wear them out, and decimate them, after which small tank and mechanized subunits would drive the enemy out of occupied territories, but without transferring the hostilities to enemy territory. The retention of a few nuclear warheads on SLBM's was envisaged as a potential "deterrent" and "final argument."

A short time later, military expert N. Hanning (FRG) advanced his plan for non-provocative "defensive defense," in line with which several zones of "absolute destruction," secured by artillery fire, long-range tactical missiles, and remote-control anti-tank missiles and mines, would be established along the borders of a state and deep within its territory. It would be virtually impossible to break through the fire barriers. If some separate small enemy groups should break through, they could be destroyed by special infantry subunits. This plan also envisaged the retention of minimal nuclear "deterrence" potential in the form of SLBM's.

The plans described above were quite significant in the establishment of the idea of alternative defense, although they were still a highly imperfect version of this kind of defense because they envisaged the retention of minimal nuclear potential. They were an improvement over the traditional model of safeguarding national security primarily with the aid of military equipment, and they also differed from current NATO strategy. They came close to the idea of "military sufficiency," which is difficult to fit into the traditional model of security safeguards. It must be said that these plans came into being in response to changes in the view of the USSR and to the replacement of the "image of the enemy," prepared to attain goals at any cost and by any means, with the "image of the adversary,"² pursuing reasonable goals with reasonable means and not willing to pay an exorbitant price for their attainment.

The ideas of alternative defense were developed further in the late 1970's and early 1980's as a result of the reassessment, in light of the democratic and humanistic ideals of the peace movement, of the plans advanced by members of the radical current in military policy. They were enriched during debates in the United States and

the West European countries on foreign and military policy issues, acquiring elements of Gandhi's ideas, the idea of "people's war," the doctrine of "just war" that is so popular in the West, especially among believers, and the experience in studying the national defense systems of Switzerland, Austria, Sweden, Finland, and Yugoslavia. Without belittling the services rendered by such theorists as A. Boserup (Denmark), S. Lodgord (Norway), A. Roberts, F. Barnaby, and D. Smith (Great Britain), B. Rolling (Netherlands), A. Mechtersheimer, D. Senghaas, L. Unterseer, A. von Muller, and many other West German researchers, and K. Boulding, F. Dyson, R. Forsberg, M. Sommer, and G. Sharp (United States), we must underscore the special contribution J. Galtung (Norway)³ and D. Fischer (United States)⁴ made to the substantiation and development of the ideas of alternative defense. In works published almost simultaneously in 1984, these researchers proposed what seemed to be the best variants, and they are identical in many respects.

The differences between them stem from Galtung's more radical socioeconomic views. Fischer's more traditional opinions are reflected in some of the distinctive features of his idea of alternative defense; for one thing, the military component plays an extremely significant role, although not a dominant one, in his model. This flaw was corrected in a later work Fischer wrote with prominent Dutch economist and Nobel Prize winner J. Tinbergen.⁵ In this work the idea of alternative defense is combined with the idea of a new political world order based on the principles of unconditional respect for the right of each nation to choose its own pattern of development, non-aggression in the settlement of intergovernmental conflicts, and cooperation by all states and peoples.

Therefore, the American experts who began working on the idea of alternative defense a little later than West European researchers have made a valuable contribution to the development of this idea. The advocates of alternative defense define security as the survival of as many people as possible (ideally, all) under the conditions of freedom. According to Fischer, security is "the ability of people to sustain their way of life under the conditions of freedom from foreign domination," the preservation of citizens, territory, and national institutions, and "the right of people to choose and develop their institutions in accordance with their own preferences and without any outside constraint."⁶ It is extremely important that the interpretation of security by advocates of alternative defense does not include the protection of national interests abroad.

Their definition of security suggests that the best method of safeguarding it consists in "the ability to avoid war"⁷ and, in the event of attack, the limitation of losses and the achievement of victory, signifying not the destruction of the adversary, but the undermining of his will to continue the war, to occupy territory, or to establish indirect rule, and the maintenance of the defended

people's desire for freedom and independence. In A. Boserup's opinion, the most the defensive side can and should strive for is the restoration of the state of affairs existing before the beginning of the war.⁸ This interpretation of victory excludes the possibility of starting aggressive wars and launching offensive operations on the territory of other states, including the attacking state, and signifies the renunciation of any kind of revenge.

In the opinion of the advocates of alternative defense, safeguarding security and winning a victory are essentially political matters and should be settled by political means, culminating in persuasion. Military hardware can play only a limited, auxiliary role during the process of persuasion: It can be used as a demonstration of will for independence, and this demonstration should be effective but should not destroy the nation or population of the state committing the aggressive act.

It is significant that the belief in the limited potential and effectiveness of violence lies at the basis of the idea of alternative defense. Some feel that the military component is totally unnecessary and is even contrary to security interests. This is the opinion of, in particular, T. Ebert (FRG) and G. Sharp (United States). Sharp feels that the best feature of non-violent defense is that it helps to "strengthen public participation in the democratic process."⁹ American researcher J. Dean also regards the plans for non-violent defense as a variety of alternative defense.¹⁰ Many others, including Boserup, Galtung, Roberts, and Fischer, also prefer non-violent defense, but they believe that an immediate transfer to this kind of defense by means of unilateral disarmament would be premature and unacceptable to the majority of West Europeans and Americans. "In today's militarized world, non-military defense alone might not be enough to sustain the necessary security," Fischer writes, but he does not deny the possibility that non-military means will take the place of war as an "instrument of international relations" in the future.¹¹ An essential condition for alternative defense is, in Fischer's words, "a just social order protecting the freedom of the individual and human dignity."¹²

The democratic essence of alternative defense is clearly revealed in Galtung's plan. Condemning ruling circles for their assumption of the right to decide whether or not the human race will continue to exist, he appeals for the decentralization of power and the establishment of "direct democracy" on the community level, because it would be much more concerned about the elimination of injustice than the most well-meaning bureaucracy. In Galtung's opinion, the decentralization of power should be accompanied by the decentralization of production.¹³ This reveals the close connection between the best plans for alternative defense and the basic ideals of the members of mass democratic movements in the non-socialist countries.

Because the idea of alternative defense refutes the protection of national interests outside national boundaries by military means, any actions (including military ones)

undertaken to enhance invulnerability should not lead to conflicts with countries striving to safeguard their own security with the same methods. This would allow each state to secure its defense exclusively with its own forces. The ideal foreign policy line for states adhering to alternative defense is a policy of neutrality, "equidistance" from the USSR and the United States, and equally friendly relations with these and all other states. This policy presupposes non-participation in politico-military alliances and the development of intensive and diverse contacts with as many countries as possible.

A belief in the need for the exchange of purely defensive technologies has recently become the common opinion of advocates of alternative defense. They feel that this kind of exchange, as a confidence-building measure, would allow the countries receiving these technologies to make the transition to the development of primarily defensive potential. This would aid in strengthening stability and consolidating security, which can only be "common security" in today's world. "In the nuclear age," Tinbergen and Fischer write, "the belief in the possibility of acquiring unilateral security at the expense of the security of others has become archaic. If others see us as such a serious threat that they want us to disappear off the face of the earth, our security cannot be too strong. To feel secure, we must strive to be so useful (or, even better, so necessary) to others that our disappearance would distress them. In the nuclear age the only possibilities are common security or a common lack of security."¹⁴

Therefore, the idea of alternative defense also includes incentives to keep the peace and develop international cooperation. Besides this, it also has a certain "deterring" effect, based not on "intimidation" but on the potential adversary's realization that his offensive forces and weapons are insufficient for the attainment of his goals.

The advocates of alternative defense see the repulsion of aggression as the process of convincing the adversary that the goals of his attack are unattainable. This kind of persuasion is accomplished with the aid of either non-violent methods or various combinations of non-violent defense and military defense. The plans envisaging these combinations stipulate different methods of using military hardware and different types of armed defense. Galtung's plan is preferred by many theorists of alternative defense. The strategy of "refusing to let the adversary win," according to this plan, is carried out with the aid of military potential consisting of a small regular army, a national guard, and mass non-violent resistance.¹⁵

The army would defend advance frontiers. If this defense should be penetrated, the main functions of armed struggle would be assumed by small groups of national guardsmen acting according to the principle of "territorial defense." The civilian population would put up

mass non-violent resistance by not allowing the adversary to use resources in occupied territories. In the final stage of the war, the regular army units located deep within national territory, with the support of the national guard, would drive the demoralized adversary out of occupied territories. If this armed resistance should fail, the nation could continue the non-violent resistance, which would culminate either in victory or compromise.

Therefore, the deciding factor in alternative defense is the will of the people, the will of each citizen; all other elements are intended to reinforce this will, sustain it under the extreme conditions of war and occupation, and secure channels and means for the expression of this will. We should recall that V.I. Lenin directed attention to the decisive importance of morale, saying that "in any war, victory ultimately depends on the morale of the masses shedding their blood on the battlefield."¹⁶ The positive ramifications of alternative defense, therefore, are the following: It safeguards the security, independence, and territorial integrity of states with the aid of a group of economic, social, political, ideological, and military measures which do not pose a threat to other states, are of a non-provocative, purely defensive nature, and are carried out exclusively within the state's own territory. As theorists of alternative defense stress, an important feature of this doctrine is the possibility of making the transition to it unilaterally. Furthermore, the states making this transition will not leave themselves open to new threats and will make a significant contribution to the reinforcement of international security even if their example is not followed by all. In the sphere of foreign policy and foreign economic relations, alternative defense envisages measures to strengthen confidence between the people and governments of different states, to organize constructive interaction by all countries, and to consolidate their interconnection without increasing the dependence of some states on others. All of this would establish the necessary conditions for the prevention of war (both nuclear and conventional) and would aid in the establishment of a new, more just, nuclear-free, and non-violent world.

The popularity of alternative defense has grown perceptibly in the last 5 years. In different versions, the idea has been accepted by most members of the peace movement in the West European countries and the United States. Its acceptance in the scientific community is attested to by the elaboration of the idea of alternative defense by the Pugwash Movement. In different versions, it has been accepted by the West German Green Party, the Socialist International, many members of the SPD left wing and center (including the party's foremost experts on security issues E. Bahr and A. von Bulow), and some opposition parties in Great Britain, Denmark, Belgium, the Netherlands, and Italy. There have been certain changes in the attitudes of even moderate conservatives, who have called some of the proposals of the theorists of alternative defense reasonable, although they do not agree with its essential purpose.

Until recently the idea of alternative defense, even in its most truncated form, had won the least recognition in U.S. ruling circles. A statement made by Chairman L. Aspin of the House Armed Services Committee of the U.S. Congress at a colloquium on nuclear and conventional forces in Europe, organized in September 1987 by the American Association for the Advancement of Science, suggests that there has been a change of attitudes even here. Proposing some ways of neutralizing the "possible superiority" of the USSR and the Warsaw Pact in conventional arms, Aspin listed some of the suggestions of proponents of alternative defense and said that these proposals could produce a bigger impact at a lower cost and could strengthen stability and security. The congressman indirectly admitted that the primarily offensive potential of the United States and NATO will not guarantee the security of Western Europe and should be radically revised.¹⁷ It seems quite significant that Aspin accepted the principle of unilateral non-provocative actions in the military sphere, actions which would not pose an additional threat to the other side but would not weaken Western security either.

The pragmatic use of some elements of alternative defense, however, has been accompanied by harsh criticism of it by military experts and officials in the NATO countries and the United States. These attacks are being made not only because the idea opens up new possibilities to stop the conventional arms race and denies the need for offensive weapons, but also, and above all, because it is based not on the "image of the adversary" but on the "image of the neighbor," who might not be an adversary unless he is provoked. Reactionaries call this the "unilateral psychological disarmament of the West." The statements made by B. Guyledra from the International Psychology Association at a forum of non-governmental organizations in Geneva in April 1988 in support of the third special session of the UN General Assembly on disarmament, however, testify that psychologists actively support the elimination of the "enemy image." People who want peace, security, and cooperation see the establishment of the "neighbor image" as a sign of good sense and trust.

Critics have tried to discredit alternative defense with "humanistic" arguments, alleging that this kind of defense will require innumerable and unjustifiable sacrifices. Refuting these arguments, Boserup made the logical observation that it "will not require any sacrifices but those we would have to make in any case."¹⁸ In response to the argument that alternative defense would lead to the "total militarization" of society, its proponents assert that militarization does not occur when defense becomes a common cause, but when defense is mistakenly identified with military strength, which is controlled by a relatively small group of individuals who use their monopoly to gain privileges.

The groundlessness of these attacks on alternative defense does not mean that the idea is flawless. Soviet researchers have observed that the distinctions drawn

between offensive and defensive arms can be extremely arbitrary. This is true, although Galtung's proposed criteria for defining the nature of weapons in line with their range, force, or zone of destruction seem quite objective. It must be said that the theorists of alternative defense are trying to secure the organization of armed forces in such a way as to preclude the use of weapons with primarily defensive properties for offensive purposes, but we feel that they have not arrived at a satisfactory solution to this extremely serious problem yet.

As for "rearming," or augmenting the relative combat potential of defensive arms, this could lead to a defensive arms race. In the opinion of the theorists of alternative defense, a defensive arms race would be governed objectively by the principle of "sufficiency" and should have a tendency toward diminution. Unfortunately, this opinion is not indisputable: It is a well-known fact that supply and demand are interrelated, and the attempts of some advocates of alternative defense to establish contact with the military-industrial complex could cause the degeneration of this idea.

Summing up the results of this analysis, we can say that in spite of all its shortcomings, alternative defense, which includes the concepts of "qualitative disarmament," "military sufficiency," and "defensive strategy" and which is based on the "neighbor image," represents a substantial departure from, if not the rejection of, the traditional model of the guarantee of national security primarily by technical military means. Because this idea corresponds to the prevailing level of public opinion in the West today, it has a good chance of further dissemination, even among people with conservative views and among believers. It satisfies the need of the Western public for defense, and this need does not come into conflict with the desire for peace, does not prevent advancement toward disarmament, does not interfere with the consolidation of trust, and can contribute to the substantial reduction of military spending¹⁹ and the reinforcement of military-strategic stability on the European continent. Alternative defense, which excludes the possibility of preventive or pre-emptive strikes against the territory of other countries and envisages the legal right of self-defense only within the bounds of national territory, is not directed against any country and is intended to secure the inalienable right of all people to make sovereign decisions on the patterns and forms of their development.

It must be said that the idea of alternative defense contains nothing contrary to the principles of USSR foreign policy or the peace initiatives recently advanced by the USSR and other socialist countries. In particular, it agrees with the basic provisions of the Warsaw Pact states' message to the NATO states and all European countries, adopted on 11 June 1986 at a conference of the Warsaw Pact Political Consultative Committee and containing a program for the reduction of armed forces and conventional arms in Europe, and with the provisions of the document "On the Military Doctrine of the

Warsaw Pact States," adopted at a conference of the Political Consultative Committee in Berlin on 29 May 1987. This similarity of positions stems from the fact that the military doctrine of the Warsaw Pact and alternative defense have the same purpose of preventing war, both nuclear and conventional, and are based on similar premises because they are purely defensive.

The idea of non-provocative, purely defensive defense can easily become part of the all-Europe process and can be used during the talks on the reduction of armed forces and conventional arms from the Atlantic to the Urals. This possibility was underscored by M.S. Gorbachev in the article "Reality and Guarantees of a Secure World" when he observed that strong momentum for advances toward detente and disarmament "could be provided by an agreement on 'defensive strategy' and 'military sufficiency.'"²⁰ This idea is being developed and clarified and is being related more and more closely to the idea of the "common European home."

Footnotes

1. The idea of "qualitative disarmament" was developed most consistently in the proposals submitted by the USSR on total and universal disarmament and partial disarmament at the world conference on disarmament in Geneva (1932-1934) (see "Istoriya diplomati" [Diplomatic History], vol 3, Moscow, 1965, pp 513-515, 557-583).
2. J. Dean, arms control adviser to the American Union of Concerned Scientists, commented that the plans suggested by Afheldt and other theorists reflected "the changing attitude toward the Soviet threat: the conviction that a Soviet attack on Western Europe for the purpose of seizing and exploiting its productive resources is highly improbable" (INTERNATIONAL AFFAIRS, 1987/88, vol 64, No 1, p 66).
3. J. Galtung, "There Are Alternatives! Four Roads to Peace and Security," Nottingham, 1984. It is significant that Galtung began elaborating his theory of alternative defense back in the 1970's (J. Galtung, "The True World: Transnational Perspectives," New York, 1980, pp 179-254, 363-376).
4. D. Fischer, "Preventing War in the Nuclear Age," Totoma (N.J.), 1984.
5. J. Tinbergen and D. Fischer, "Warfare and Welfare: Integrating Security Policy into Socioeconomic Policy," Brighton-New York, 1987.
6. D. Fischer, "Preventing War in the Nuclear Age," pp 48, 43.
7. Ibid., p 48.

8. "Disarming Europe," edited by M. Kaldor and D. Smith, London, 1982, p 190.
9. G. Sharp, "Making Europe Unconquerable: The Potential of Civilian-Based Deterrence and Defense," Cambridge (Mass.), 1986, p 140 (for a review of this book, see SSHA: EKONOMIKA, POLITIKA, IDEOLOGIYA, 1988, No 3).
10. J. Dean, "Alternative Defense: Answer to NATO's Central Front Problem?" INTERNATIONAL AFFAIRS, 1987/88, vol 64, No 1, pp 61-82.
11. D. Fischer, "Preventing War in the Nuclear Age," pp 126-127.
12. JOURNAL OF PEACE RESEARCH, 1982, vol 19, No 3, p 215.
13. J. Galtung, "There Are Alternatives!" ch 5.
14. J. Tinbergen and D. Fischer, Op. cit., p 181.
15. J. Galtung, "There Are Alternatives!" ch 5.
16. V.I. Lenin, "Poln. sobr. soch." [Complete Collected Works], vol 41, p 121.
17. L. Aspin, "Unilateral Moves for Stability," BULLETIN OF THE ATOMIC SCIENTISTS, 1987, vol 43, No 10, pp 12-15.
18. "Disarming Europe," p 190.
19. A comparison of the percentage of the GDP absorbed by military expenditures in the neutral countries and the NATO countries suggests that sizable reductions of offensive potential produce commensurate cuts in military spending.
20. PRAVDA, 17 September 1987.

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Discussion of Canada's Current Problems

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[Report on Soviet-Canadian conference of 24-25 February 1988 at Institute of U.S. and Canadian Studies]

[Text] A Soviet-Canadian conference was held in the Institute of U.S. and Canadian Studies of the USSR Academy of Sciences on 24 and 25 February 1988 for the discussion of the most important current sociopolitical issues in Canada—the Canadian-American agreement on the creation of a free trade zone (signed in January 1988), the Meech Lake constitutional agreement concluded in May 1987, and Canada's role in world politics.

The conference began with a speech by Candidate of Historical Sciences S.M. Plekhanov, acting deputy director of ISKAN [Institute of U.S. and Canadian Studies of the USSR Academy of Sciences], who greeted Canadian Ambassador Vernon Turner, prominent Canadian scholars and professors J. Granatstein, P. Kresle, P. Pinchot, P.P. Proux, R. Simeon, and B. Wilkinson, personnel from the Canadian Ministry of External Relations and the Canadian embassy in Moscow, and researchers from the Moscow VUZ's who attended the conference. The reason for the meeting was quite extraordinary, he said. This is the first time scholars from our countries have decided to discuss the most important problems facing Canada today together. Canada is a highly developed state which plays a perceptible and constructive role in world affairs. In view of this, we decided to begin studying Canada in our institute back in 1972. Two years later the institute was renamed to reflect this important development. Since that time 20 monographs and several hundred articles have been written on the most diverse aspects of Canadian economics and politics. For this reason, our Canadian guests will find that our specialists are interested listeners and worthy opponents. We hope that this meeting will be followed by others with an equally relevant agenda.

The conference was chaired by Professor L.A. Bagramov, doctor of economic sciences.

When Academician G.A. Arbatov, director of the Institute of U.S. and Canadian Studies of the USSR Academy of Sciences, addressed the conference, he directed attention to the changing agenda of world politics, a development which has already been acknowledged by many people, if not all. People are beginning to realize that the world is becoming increasingly diverse and contradictory. There has been no confirmation of the earlier belief that the main tendency in world development was the gradual disappearance of historical traditions, national uniqueness, and ideological differences under the influence of the global tendency toward standardization and uniformity. But the actual course of historical events has not confirmed the belief in the increasing disunification of humanity either. The diverse and contradictory aspects of today's world are combined with the globalization of major socioeconomic processes. This only seems paradoxical on the surface. It means that humanity, despite all of its diversity, is becoming a single community for the first time in history.

In the past, when relations between states were mainly confined to the political and military spheres, foreign trade was the servant of politics. Now politics is frequently under strong pressure and has to act as the servant of trade: Economic disagreements, problems in currency exchange rates, international debts, and customs barriers are becoming the most important topics discussed at meetings of the leaders of Western industrially developed countries. The world economy has become so internationalized that any moves capable of undermining international exchange can inflict colossal

injuries on its participants. It is becoming clear that the chain of interdependence consists of more than one or two links, and for this reason the economic decisions made in one corner of the world can have an unforeseen impact on another corner, and economic sanctions and embargoes can rebound like a boomerang and hurt their initiators.

The picture of international relations is constantly growing more complicated, developing not in the direction of a multipolar world but in the direction of a world in which it will be necessary to consider the interests of all members of the international community instead of just one or two or even several power centers, and to constantly seek a mutually acceptable and stable balance of the interests, and not a balance of power, of the majority of countries. We are moving toward a world in which contradictions and conflicts will be combined with unity and integrity. Imperious policies and imperious thinking will be unacceptable and obsolete under these conditions. No one will be able to dominate others over the long range. It is most likely that the principle of the sovereignty and equality of states, regardless of their size or potential, will be established in international relations.

Active participation by all states in world affairs, especially in the construction of a safe and nuclear-free world, is more important today than ever before. Medium-sized and small countries will not, cannot, and should not have to entrust the great powers with their fate and the fate of the world. This is why the issue of free trade, which is of such great importance to Canada, must be examined in the global context, because the achievement of economic security is also a global matter, a matter affecting the vital interests of many countries, including Third World countries, and therefore requiring concerted effort. The just and democratic resolution of this problem will be possible in the presence of the political will of the entire world community. If two or several states try to solve their own problems at the expense of the rest of the world, this can lead only to economic and political upheavals of global dimensions.

In a discussion of "Free Trade and the Liberalization of Trade," Professor Bruce Wilkinson (University of Alberta) said that when Canada signed the agreement, it hoped to gain broader and safer access to the American market. This goal, however, was not attained, because the United States did not exempt Canada from its laws on compensatory and anti-dumping duties. Whereas Canada could once rely on GATT in the resolution of its trade problems with the United States, now it has to petition the bilateral arbitration commission envisaged in the agreement. If Canada had continued to work toward the expansion of its exports through GATT, it probably would not have lost as much in the sphere of economic and political autonomy as it lost by signing the agreement with the United States. In essence, this is not an agreement on free trade, but on economic integration.

In his report on "Free Trade and Canada's National Interests," Candidate of Economic Sciences B.I. Alekhin (ISKAN) stressed that the agreement is an important step toward the creation of a continental economic union in the interest of Canadian and American monopolies, which are experiencing strong overseas competition. In this sense, it will be of a protectionist and discriminatory nature as far as third countries are concerned. Besides this, there can be no question of free trade in an era of developed state-monopoly capitalism in the sense of free competition by independent producers, governed by the law of value. International trade is becoming less free and more "controlled" by governments and by the largest monopolies. For example, 60 percent of Canada's trade with the United States consists of shipments between American firms and their subsidiaries in Canada. It is obvious that the slogan of free trade in this case signifies the freedom of American TNC's to reorganize and expand their operations in a deregulated Canadian economy, "free" of government sponsorship. The erosion of Canada's sovereignty and national uniqueness and of the socioeconomic gains and political influence of the laboring public is inevitable in this situation.

In a report on "The Canadian Regional Economy and the Liberalization of Trade," Professor Pierre Paul Proux (University of Montreal) analyzed the regional aspects of Canadian-American economic relations in light of the free trade agreement. The speaker said that these relations are developing more quickly than relations between regions in Canada. The liberalization of Canadian-American trade will shift the flow of capital and goods to the "north-south" axis and weaken the influence of the "east-west" axis in Canadian economic development. It will also promote the concentration of production and exports in Ontario, although there is some indication that other provinces will also benefit from free trade. Canada could simultaneously pursue the liberalization of bilateral trade with the United States while winning trade concessions through GATT and expanding bilateral trade with other countries (the so-called "fourth alternative" in the development of Canada's foreign economic ties).

In his report on "Some Aspects of Government Regulation in Canada," Professor Richard Simeon (Queen's University) analyzed the constitutional agreement of 1987 within the context of the economic and political realities of present-day Canada. Political institutions in Canada have adapted effectively to the new role of government in the postwar era. This also applies to the constitutional issue. The adoption of the "Charter of Rights" and the achievement of a reasonable compromise between the view of the country as a group of independent provinces and the more centralized view—these changes, which took place between 1982 and 1987—represented the establishment of conditions for the dialectical interaction of two models of government rather than a choice between competing models. Nevertheless, problems still exist. They stem from the need for

the effective regulation of Canada's international relations under the conditions of the highly developed pluralism of domestic affairs: The tendency toward coordination, centralization, and harmonization has been accompanied by a tendency toward decentralization and more pronounced differences.

In the opinion of Candidate of Historical Sciences V.Ye. Shilo (ISKAN), who reported on "The Constitutional Issue in Canada," the Meech Lake agreement will affect the balance of power between the central government and the provinces in favor of the latter. The importance of this document stems precisely from this fact. Besides this, it is the first acknowledgement that Quebec is a "distinct society" within the Canadian Federation, and it grants the province special powers in the sphere of immigration and three seats in the Canadian Supreme Court. The agreement also envisages annual federal and provincial summit-level conferences for the discussion of issues of major importance to the federation. In this way, it represents a definite advance in the reinforcement of the federation's stability. At the same time, it must be said that the statement about the "distinct society" is fairly vague. For this reason, it is difficult to predict how it will be interpreted in the Canadian courts. Besides this, the agreement is based on stronger provincial authority, and this could seriously undermine Ottawa's position in the future.

Candidate of Geographical Sciences A.I. Cherkasov (ISKAN) took part in the discussion and said that the constitutional acknowledgement of Quebec's status as a "distinct society" is the first step in an extremely positive direction. To preserve a high enough level of centralism and the integrity of the Canadian federation while securing the implementation of the "distinct society's" rights, is it not time to take the next step: to acknowledge the existence of at least two equal nationalities in Canada—Franco-Canadian and Anglo-Canadian?

Candidate of Historical Sciences N.B. Bantsekin (ISKAN) stressed that these matters are not only the result of internal Canadian and regional factors but also of global processes. The decentralization of economic and political structures began almost simultaneously in Canada and several countries in Western and Eastern Europe and slightly later in China and the USSR. The comprehensive approach necessitates the study of both agreements—the agreement on the free trade zone and the constitutional agreement. Their combined influence is qualitatively much greater than the influence of each individually.

In his report on "Canada and World Politics," Professor Paul Pinchot (University of Laval) said that after 1945 Canada established its own foreign policy system, and this consolidated the process of building a government in the country. This system is made up of methods of foreign policy activity, priorities, and institutions. Canada wants to play a global role in international politics, in spite of its limited resources, and it intends to

strengthen its position in the West and in the Third World. The main method of Canadian foreign policy is the resolution of problems on a multilateral basis. In the postwar years Canada has worked out a foreign policy doctrine reflecting its unique geographic position. Finally, the country has an established system of foreign policy institutions, including some on the provincial level, which secure its active participation in international affairs. Canada wants a new role in relations between the countries of the Arctic basin, in North America, in the Commonwealth of Nations, in French-speaking countries, and in the sphere of environmental protection.

Candidate of Historical Sciences S.F. Molochkov (ISKAN) analyzed Canada's role and place in world politics since World War II in his report. He discussed the underlying causes, basic forms, distinctive features, and dynamics of Canada's international activity. The factors determining its policy can be divided into internal (economic, geographic, political, and sociopsychological) and external (its proximity to the United States, its strategic position between the United States and the USSR, the level of international tension and the balance of power, and its membership in international organizations and military alliances). Canada is widely known as a "helpful mediator" in the settlement of international conflicts, an active participant in arms control and disarmament talks (especially in the case of nuclear arms), the only French-speaking country in the Commonwealth of Nations, a prominent donor of aid to the Third World, and the author of several valuable initiatives of international significance. After the end of the war, Canada vigorously promoted functional participation in the creation of international political and economic organizations. Canada's initiative in creating the UN emergency force for the settlement of the Suez crisis in 1956 won international acknowledgement. By the end of the 1960s Canada's role in world affairs had been weakened by the stronger position of West European countries and the stronger influence of the PRC, Japan, India, Indonesia, and other countries. In the sphere of foreign policy the new Conservative government of B. Mulroney has been preoccupied with the conclusion of the free trade agreement with the United States, and this could be the reason for Canada's extremely limited use of its potential as an active member of the world community.

In a report on "Trudeau's Policy and Europe," Professor Jack Granatstein (York University) stressed that P. Trudeau was an extraordinary prime minister. This man, with his keen intellect and strong will, rejected so-called "common sense" and acted in accordance with his own view of the world. He altered Canadian foreign and military policy to fit national interests. In particular, he was able to "push" the decision on the reduction of the Canadian armed forces designated for NATO through the cabinet. Trudeau's name is also associated with the well-known policy of the "third alternative," which was

supposed to reduce Canada's excessive economic dependence on the United States and expand its ties with Europe. Canada was able to establish a legal-treaty basis for the diversification of its foreign contacts by concluding an agreement with the EEC. The success of the "third alternative" turned out to be illusory, however, and it did not give Canada any economic advantages. After Trudeau left the political stage, the Canadian Government began strengthening its bilateral ties with the United States, and the result was the Canadian-American agreement on free trade.

Candidate of Historical Sciences S.Yu. Danilov (ISKAN) believes that the prevailing tendency in Canada today is a move toward the decentralization of authority within the country and "appeasement" in relations with the United States. There are no prominent political figures on the federal level today who would fight as resolutely and consistently for a "strong Canada" as Trudeau did.

In the opinion of Candidate of Historical Sciences Ye.V. Israelyan (ISKAN), the resolution of current global problems will require the close interaction and cooperation of all states, regardless of their social systems. It is completely obvious that the USSR and the United States have a special responsibility for the state of world affairs, but the positions and initiatives of other countries can aid in the achievement of reasonable compromises on disarmament and other global problems. In spite of the conflicting class interests of the USSR and Canada, an objective basis for their cooperation in these spheres does exist.

A concluding speech was presented by L.A. Bagramov, head of the ISKAN Canadian Department. It is impossible to take a simple approach to free trade and protectionism, he said, without taking specific circumstances into account. The processing industry is far less effective in Canada than in the United States, and free trade between them could therefore inhibit the development of many branches of the Canadian processing industry and, consequently, increase unemployment, transfer much of Canada's R&D to the United States, intensify its technological dependence, increase foreign ownership in Canada, and restrict its economic and political sovereignty. By the same token, a combination of measures to protect the domestic market and a national industrial strategy would allow Canada to strengthen its processing sector, increase its potential for innovation, and enhance production efficiency and the competitive potential of manufactured goods on this basis. Obviously, the expansion of the market would create the possibility of economizing on the scales of production, intensifying its specialization, and enhancing its effectiveness. At this time, however, production efficiency is likely to depend more and more on factors connected with research and development and the ability of enterprises to incorporate the results of R&D in the production sector quickly and respond quickly to changes in market demand.

In reference to the Meech Lake agreement, the speaker pointed out the fact that it eliminated the last obstacle impeding the implementation of the 1982 Constitution and therefore signifies an advance in the development of Canada's sovereignty. In his opinion, however, the many concessions the provinces made will intensify centrifugal forces in a country which is already distinguished by excessive decentralization.

The speaker called former Prime Minister Pierre Elliott Trudeau an outstanding statesman and underscored the exceptional importance of his efforts to develop the process of detente and curb the arms race, to expand East-West economic contacts, and to solve serious problems in the developing world. Trudeau's trips to the Soviet Union and PRC, which preceded similar trips by the President of the United States, required political insight and even a certain degree of political courage. Trudeau was more farsighted than many politicians in the Western world and it is regrettable that he was not always appreciated.

L.A. Bagramov thanked all of the Canadian and Soviet participants in the seminar, saying that the conference had revealed differences in views on many of the topics discussed, and this is good because the truth is born of debate. The exchange of opinions was interesting and useful and contributed much to the development of Soviet-Canadian scientific contacts.

Professor P. Kresle, executive director of the International Council for Canadian Studies, and Soviet researchers—Professor V.V. Sushchenko, doctor of economic sciences, and Docent I.F. Antonova, candidate of geographical sciences—also took part in the discussion of the topics on the agenda.

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Discussion of U.S. Electoral Procedure

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[Letter to editors from worker I.A. Palachev (Klimovsk, Moscow Oblast) and response by L.A. Antonova, junior research associate at the Institute of U.S. and Canadian Studies: "How Elections Are Held in the United States"; second paragraph is SShA: EKONOMIKA, POLITIKA, IDEOLOGIYA introduction]

[Text] This is a presidential election year in the United States. Our mass media are paying considerable attention to this event, but many ordinary "consumers of information" (including me) do not know much about the electoral system in the United States. I would like to know the "technology" of the presidential elections in the United States in detail, from "A" to "Z," as they say,

beginning with the nomination of candidates for this office (or their "self-nomination") and ending with what happens in the United States on "the first Tuesday after the first Monday in November...." Respectfully, I.A. Palachev, worker (Klimovsk, Moscow Oblast).

We asked L.A. Antonova, junior researcher at the Institute of U.S. and Canadian Studies of the USSR Academy of Sciences, to answer this letter.

Presidential elections in the United States are held on the first Tuesday after the first Monday in November every leap year (on 8 November this year), but the chief executive will not enter the White House until two and a half months later, on 20 January next year. On that day the inauguration, the ceremony at which the new president is officially sworn in, will take place in front of the Capitol building, where Congress, the highest legislative body in the United States, meets. This is when the president begins serving his term and moves into the White House for the next 4 years.

The 41st president of the United States will be elected in November 1988. On the same day the voters will elect a vice president, one-third of the senators, all members of the House of Representatives, many state governors, the members of state legislatures, etc.

The election system in the United States is quite complicated. Here are some of its most important features.

The Constitution says that any citizen who was born in the United States, has lived in the country for at least 14 years, and is at least 35 years old can be elected president. The same requirements apply to the vice presidency. In 1951 the 22d Amendment to the Constitution stipulated that the president cannot be elected for more than two 4-year terms.

The election campaign is divided into two main stages: the pre-election stage (the primaries and the party national conventions) and the election stage, which begins after the conventions and lasts until election day. According to the American electoral system, however, the president of the United States still will not be officially elected on 8 November because the voters in the majority of states do not vote for the president and vice president directly, but for electors belonging to different political parties. It is not until the first Monday after the second Wednesday in December (19 December this year) that the electors elected on 8 November will vote for a team of presidential and vice-presidential candidates (this procedure will be discussed in greater detail below).

The election "race" begins long before November—at the time when contenders for the presidency announce their candidacy and begin collecting funds and campaigning in their electoral districts. The most promising candidates from the two bourgeois political parties in the United States—Republican and Democratic—usually

become known to voters when the initial phase of the election campaign is over and the primaries are held. During the primaries the delegates to the national conventions of both parties are elected. The primaries also indicate which of the candidates for the official party nominations have the strongest support in the political, business, and military communities and the greatest popularity with voters.

Members of any political party can enter the race if they collect the necessary number of voters' signatures required by state law or deposit a certain amount of money in the state treasury before the primaries (for example, 1,500 dollars in the state of New Jersey).

After the primaries, which usually last from February to July of election year, the number of candidates decreases sharply when those who have not been successful and have not won enough political and financial support "drop out of the race."

Candidates only become official party nominees for the presidency after their nomination at national conventions. Convention delegates (this year the Democratic convention will be held from 18 to 21 July in Atlanta and the Republican convention will be held from 15 to 18 August in New Orleans) are bound by political tradition to vote on the first ballot for the candidate who won the primary election in their electoral district.

For several decades the Republican and Democratic party nominees have been chosen by convention delegates during the first round of voting, but the competition between candidates can continue in subsequent rounds, until one candidate wins a simple majority of the convention delegates' votes. This year the candidate for the Republican presidential nomination will need only 1,139 of the 2,277 possible votes (one for each delegate), and the Democratic nominee will need 2,081 of the 4,160 possible votes. The national party convention also approves a party platform, outlining the party's program for the next 4 years and containing the appropriate promises to voters. The convention also elects a national committee and adopts something like a charter—rules governing the conduct of party affairs.

The presidential and vice-presidential nominees and the two parties in general campaign actively during the period between the national conventions and the elections in November. The nominees travel around the country in accordance with a schedule drawn up by their advisers and aides and address voters, presenting speeches tailored for each specific social and ethnic group. They establish strong organizations of experts, journalists, and advertising specialists: Some write speeches for them, others plan their political strategy and tactics, others raise funds (with the aid of computerized mailings, etc.), others draw up the itineraries of their national tours, others conduct public opinion polls.... Positive coverage of candidates on television and in the press is a matter of great concern.

The artfully, and sometimes artificially, created controversies, heated political battles, and suspense all come to a head on election day. Furthermore, the duel between the candidates costs huge amounts of money from private and federal sources.

According to data published in the United States, the total amount spent on the 1984 campaign (despite the laws restricting campaign spending) was around a billion dollars, as compared to the 900 million spent on the 1980 campaign. According to preliminary estimates (the actual sum will not be known until after the elections), the 1988 campaign will cost 1.5 billion dollars, and most of the sum will be paid by ordinary taxpayers, many of whom will not even vote on election day. In 1984 only 92.6 million of the 174 million eligible American voters actually cast their ballots in the presidential elections (53.2 percent); only 31 percent of all voters voted for Ronald Reagan. The percentage of Americans ignoring the mid-term elections to the Congress is even higher: In 1986 only 37.7 percent of the registered voters voted in these elections. In the current campaign 182.6 million people will have the right to vote on election day.

The voting procedure envisages the possibility of using written ballots or automatic voting machines, depending on the technical equipment installed in the polls.

Candidates for the electoral college are nominated—on a single ticket—by the political party committees in each of the 50 states and the District of Columbia. The number of electors is equivalent to the number of senators and members of the House of Representatives in the U.S. Congress elected from each state. In 1961 the 23d Amendment to the Constitution stipulated that the District of Columbia, which has no representatives of its own in the Congress, has the right to elect three electors. Therefore, the total number of members of the electoral college is 538. The electoral college never holds meetings of its full membership; its members vote in their own states for a president and vice president, and at least one of these cannot be a resident of their state.

The president and vice president are not elected officially until they receive a majority of the electoral votes. There is the possibility that one of the party nominees could win a landslide victory in several densely populated states (states with a higher number of electors) and still lose the race. After all, even if he wins a significant majority of the popular vote, he might not receive enough electoral votes to win. This has happened three times in U.S. history—in 1824, 1876, and 1888. Furthermore, only seven members of the electoral college (of the total 18,662) in all U.S. history voted contrary to the rules, but this never affected the outcome of the elections.

This year a presidential candidate must win the support of 270 (of 538) electors. The results of their votes, signed by the electors and notarized with the state seal, are announced by the president of the Senate (the vice

president of the current administration) at a joint session of Congress. If no candidate receives a majority of the electoral votes, the future president is chosen, in accordance with the 12th Amendment to the Constitution (1804), by the House of Representatives from among the three candidates with the highest number of electoral votes. Each state has one vote in these elections, and the candidate with a simple majority wins the race. In other words, the candidate needs 26 votes to win. It was precisely as a result of this procedure that Thomas Jefferson was elected in 1800 and John Adams was elected in 1824.

If the House of Representatives is unable to elect a president before 4 March, his functions are assumed by the vice president, chosen from among the candidates for this office with a majority of the electoral votes. If no vice-presidential candidate receives a majority of these votes, the Senate chooses him from among the two candidates with the highest number of votes. This requires a quorum of two-thirds of the senators, and the candidate with a majority of their votes wins the election. After the president has been elected, the House of Representatives follows the same procedure to elect the vice president.

The names of the new president and vice president chosen by the electoral college are announced officially at a joint session of Congress.

The flawed and archaic procedure of voting in the electoral college has been debated by specialists, legal experts, and political scientists. Politicians are not happy with the procedure either. Walter Mondale, the vice president in the Carter Administration, called this election procedure "unreasonable, suicidal, and destructive," and Congressman J. Bingham expressed doubts as to whether "decisions on a matter of tremendous governmental importance" should be entrusted to the "obsolete and defective electoral college mechanism." The prospect of a constitutional amendment to modify the procedure, however, is dubious.

In contrast to the president and vice president, the members of both houses of Congress and the state legislatures (in the majority of states they are also bicameral) and state and local officials are elected directly.

These direct elections are also held on the first Tuesday following the first Monday in November, but they are held every even-numbered year—i.e., every other year. In years when congressional elections coincide with presidential elections, the names of the party candidates for the U.S. Senate and House of Representatives are on the same ticket as the names of the party's presidential and vice-presidential nominees or, in some states, the names of the party's nominees for the electoral college.

According to the Constitution, candidates for the Senate must be citizens of the United States (and they must have been citizens for at least 9 years), they must be at

least 30 years of age, and they must live in the state in which they are running. Each state sends two senators to Washington for 6 years. One-third of the senators are re-elected every other year, and this means that the full membership of the Senate is renewed every 6 years.

The House of Representatives is governed by other requirements. At first there was one representative for every 30,000 inhabitants of a state, but the ratio changed as the population of the United States grew. Now electoral districts with a population of over 500,000 have the right to elect a representative. Candidates for the House of Representatives must be citizens of the United States, must be at least 25 years old, must have been citizens for at least 7 years, and must live in the state in which they are running for election. Members of the House of Representatives are elected for a term of 2 years, and the membership of the House is renewed at the end of this term.

The election procedures and terms of state governors and state legislators are stipulated in the constitutions of each of the 50 states. Campaign procedures on this level differ depending on the laws and traditions of the states, and sometimes these differences can be quite significant.

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